UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

MAR 2 3 2017

OFFICE OF
AIR AND RADIATION

Mitch Bainwol, President and CEO
Auto Alliance
803 7th Street. N.W. Suite 300
Washington, DC 20001

Dear Mr. Bainwol,

Thank you for your letter of February 21, 2017, to U.S. Environmental Protection Agency Administrator Scott Pruitt regarding the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas (GHG) standards issued by the EPA on January 12, 2017. The Administrator has asked me to respond to you on his behalf.

On March 13, 2017, EPA Administrator Pruitt and Department of Transportation Secretary Chao signed a *Federal Register* notice announcing EPA's intention to reconsider the Final Determination. In accord with the schedule set forth in EPA's regulations, the EPA intends to make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation. If you have further questions, please contact me or your staff may contact Michael Olechiw at Olechiw.michael@epa.gov or at 734-214-4297.

Sincerely,

William J. Charmley, Director
Assessments and Standards Division

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February 21, 2017

G. Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, D.C. 20460

RE: Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation

Dear Administrator Pruitt,

I write on behalf of the Alliance of Automobile Manufacturers (Alliance), an association representing twelve leading manufacturers of cars and light trucks,[1] to request that the U.S. Environmental Protection Agency (EPA) withdraw the Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Final Determination) which was announced on January 13, 2017 but never published in the *Federal Register*.

For the auto industry, the Final Determination may be the single most important decision that EPA has made in recent history. The Alliance requests that EPA withdraw the Final Determination and resume the Midterm Evaluation, in accordance with its original timetable, to remedy the severe procedural and substantive defects that have infected the process to date. We explain, in more detail below, EPA's authority to withdraw the Final Determination and why that withdrawal is appropriate and essential.

1. EPA Should Exercise Its Authority to Withdraw the Final Determination

As you know, on January 20, the White House issued a memorandum to the heads of all executive departments and agencies instituting a freeze on regulatory activity, pending review by the Office of Management and Budget (OMB) Director.[2] The Alliance urges EPA to withdraw the Final Determination on its own initiative in accordance with the regulatory freeze. Irrespective of whether EPA considers the Final Determination a rule or an adjudication, the Final Determination should be reviewed

[1] Alliance members are BMW Group, FCA US LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars North America, Toyota, Volkswagen Group of America, and Volvo Car USA.

[2] *See* Memorandum for the Heads of Executive Departments and Agencies, Jan. 20, 2017, https://www.whitehouse.gov/the-press-office/2017/01/20/memorandum-heads-executive-departments-and-agencies.

and withdrawn. As the Alliance has noted, a wealth of precedents confirm that the Final Determination is a rule, and all rules not yet published in the *Federal Register* are subject to the regulatory freeze.[3] Even if EPA continues to construe the Final Determination as an adjudication, however, it is still subject to the regulatory freeze as an "agency statement of general applicability and future effect 'that sets forth a policy on a statutory, regulatory, or technical issue or an interpretation of a statutory or regulatory issue.'" The Final Determination reaffirms and reinstates industry-wide greenhouse gas emissions standards for all light vehicles sold in America for MY 2022-2025, and thereby establishes a policy on a regulatory issue of central importance to the auto industry.

Furthermore, EPA has ample authority to withdraw the Final Determination on its own initiative, irrespective of whether EPA considers it a rule or an adjudication. If the Final Determination is a rule, it is clearly a nonfinal one, because it has not been published in the *Federal Register*. *See* 5 U.S.C. § 553(d); *Kennecott Utah Copper Corp. v. U.S. Dep't of Interior*, 88 F.3d 1191, 1209 (D.C. Cir. 1996). And, as a nonfinal rule, EPA can readily withdraw the Final Determination without engaging in notice-and-comment rulemaking. *Kennecott,* 88 F.3d at 1206.

Even if EPA continues to endorse the view that the Final Determination is an adjudication, however, EPA has broad inherent power to reconsider its decision "within the period available for taking an appeal." *Am. Methyl Corp. v. EPA*, 749 F.2d 826, 835 (D.C. Cir. 1984). Agencies have long exercised this power to fix determinations like this one that suffer from "serious procedural and substantive deficiencies." *Belville Min. Co. v. United States*, 999 F.2d 989, 998 (6th Cir. 1993). Regardless of how EPA classifies the Final Determination, EPA should promptly withdraw it in light of the many procedural and substantive flaws described below.

2. EPA Has Abrogated Its Commitment to a Robust Midterm Evaluation

As the Supreme Court has recognized, EPA's regulatory efforts to address greenhouse gases have already produced "the single largest expansion in the scope of the [Clean Air Act] in its history."[4] In 2009, EPA issued an Endangerment Finding that motor vehicle greenhouse gas emissions contribute to climate change and thereby threaten public health and welfare. Thereafter, EPA and the National Highway Traffic Safety Administration (NHTSA) began jointly setting greenhouse gas emissions and fuel economy standards for new light-duty motor vehicles, starting with Model Year (MY) 2012-2016. Then, in 2012, EPA and NHTSA took the unprecedented step of

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[3] *See* Alliance Comments on Proposed Determination on Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation at 11-13, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827; Memorandum for the Heads of Executive Departments and Agencies, Jan. 20, 2017.

[4] *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2436 (2014) (internal quotation marks omitted).

setting joint greenhouse gas and fuel economy standards over a decade in advance for MY 2022-2025 vehicles. 77 Fed. Reg. 62,628 (Oct. 15, 2012). No agency ever had set emissions standards so far into the future, and all stakeholders understood that no one could accurately project the circumstances affecting the technological and economic feasibility of these standards.

The Alliance supported these efforts—but only on the condition that EPA and NHTSA would reassess standards as data became available to test their feasibility. That commitment was essential because of the great uncertainty regarding the feasibility of the future standards. Based on the projections in the 2012 rule, manufacturers must achieve an average 54.5 miles per gallon equivalent across their new vehicle fleets by 2025. Even today, no conventional vehicle today meets that target, and conventional vehicles comprise 96.5% of the new light-duty vehicle fleet. Only some non-conventional vehicles (i.e., hybrid, plug-in electric, and fuel-cell vehicles), which comprise fewer than 3.5% of today's new vehicles, currently can do so.[5] Even under EPA's optimistic estimates, the automotive industry will have to spend a staggering $200 billion between 2012 and 2025 to comply, making these standards many times more expensive than the Clean Power Plan.[6]

EPA and NHTSA committed to a robust Midterm Evaluation that would take a fresh look at these standards by April 2018. The agencies promised that this review would be collaborative, so that the industry could offer the agencies real-life data to adjust their model-driven forecasts. The agencies also committed to developing greenhouse gas emissions standards and fuel economy standards in tandem.[7] And they repeatedly represented that they would not complete the Proposed Determination/Notice of Proposed Rulemaking until mid-2017 at the earliest.[8] The industry took the agencies at their word, commissioning complex studies critical to assessing the MY 2022-2025 standards and the processes used by EPA in its analysis, that we had expected to add to the administrative record for the Midterm Evaluation in 2017.

On November 30, 2016, EPA abruptly abrogated these commitments. EPA issued a Proposed Determination that the MY 2022-2025 standards should go into force

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[5] "Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 through 2016," at 118. U.S. Environmental Protection Agency. EPA-420-R-16-010, Nov. 2016.

[6] *See* EPA Regulatory Impact Analysis for 2012-2016 rule (EPA-420-R-10-009, Apr. 2010) at https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2012-2016-light-duty-vehicle; EPA Regulatory Impact Analysis for 2017-2025 rule (EPA-420-R-12-016, Aug. 2012) at https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2017-and-later-light-duty-vehicle.

[7] *See* 40 C.F.R. § 86.1818-12(h), 77 Fed. Reg. 62,784 (Oct. 15, 2012), 40 C.F.R. § 86.1818-12(h)(1) -(2); 81 Fed. Reg. 49,219 (July 27, 2016).

[8] *See* Alliance Comments on Proposed Determination at 10, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827.

without modification. EPA issued the Proposed Determination without coordinating with NHTSA. EPA demanded comments by December 30, 2016, even though the Proposed Determination was not published in the *Federal Register* until December 6. The public and industry had a mere 24 days, spanning a major national holiday, to comment on nearly 1,000 pages of documents, plus additional cited documents and computer modeling, regarding requirements that will profoundly affect the automobile industry and the more than 900,000 American workers it directly employs.[9] After EPA denied requests by various stakeholders to extend the abbreviated comment period, we did our best to file substantive comments. EPA received more than 100,000 public comments, including 63 sets of comments from various organizations spanning hundreds of pages.[10] Many objected that the comment period was inadequate. EPA denied all requests to extend the abbreviated comment period and yet EPA issued the Final Determination on January 13, 2017, just 14 days after the comment period closed. EPA brushed aside objections to its procedural shortcuts and never justified the need for such an abbreviated comment period. EPA also rejected commenters' substantive and technical concerns by resting on its earlier analysis.

3. EPA Should Withdraw the Final Determination Immediately

The Final Determination is the product of egregious procedural and substantive defects and EPA should withdraw it.[11] In EPA's rush to promulgate the Final Determination before the new administration took office, EPA bypassed required procedures, failing for instance to provide an adequate period for meaningful notice and comment. The Final Determination asserts that there was no need for more time because the Proposed Determination did not include much new material. But that contention is belied by EPA's acknowledgement that the Proposed Determination adjusted a number of EPA assumptions in response to commenters who pointed out errors at earlier stages. The industry also had an unacceptably short period to try to ascertain why EPA rejected many of its objections.[12] These procedural defects are significant irrespective of whether the Final Determination constitutes rulemaking or adjudication.

EPA's unilateral announcement of its Final Determination also constitutes a failure to harmonize its greenhouse gas emissions standards with NHTSA's fuel-economy standards, contrary to the letter and intent of EPA's own regulations. NHTSA has not yet reached a determination on its fuel economy standards and continues its

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[9] U.S. Department of Labor, Bureau of Labor Statistics, 2015. U.S. Vehicle and Equipment Manufacturing Employment equaled 909,700 people.

[10] Final Determination, Response to Comments at 1-3.

[11] *See* Alliance Comments on Proposed Determination, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827.

[12] *See* Final Determination, Response to Comments at 7.

Midterm Evaluation rulemaking activities. EPA's failure to act in coordination with NHTSA also casts serious doubt on the legitimacy of EPA's data and conclusions, given the substantial discrepancies between EPA's and NHTSA's analysis of the technologies and costs associated with the MY 2022-2025 standards.[13]

Furthermore, EPA's Final Determination that the MY 2022-2025 greenhouse gas standards should remain unchanged, is riddled with indefensible assumptions, inadequate analysis, and a failure to engage with contrary evidence. Here are just a few examples:

- EPA estimated that these standards will cost the industry at least $200 billion. But EPA underestimated the burden. Contrary to EPA's assumptions, manufacturers will have to rely on much more expensive electrified technologies (i.e., hybrids and plug-ins), driving up vehicle prices and depressing auto sales.

- EPA refused to conduct an analysis of consumer acceptance and technology affordability needed for compliance, claiming this was too difficult.

- EPA refused to analyze substantively the economic impact of the MY 2022-2025 standards, instead making cursory assertions that downplayed the impact of its mandate on auto sales and employment.

- EPA refused to consider many of the Alliance's technical concerns even when supported by an outside consultant[14], asserted the Alliance provided insufficient data, and then refused further meetings for clarification.

4. Studies and Data Highly Relevant to the Midterm Evaluation Have Not Been Submitted to EPA Because They Still Are Pending

It is particularly critical that EPA withdraw the current Final Determination and reopen the Midterm Evaluation process because analysis commissioned according to EPA's original timetable is ongoing and the Alliance expects that new information relevant to the Final Determination's underlying assumptions and resulting analysis will soon emerge. EPA's rushed timetable, coupled with its about-face on the timing of the Midterm Evaluation, prevented consideration of this information.

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[13] *See* Alliance Comments on US EPA, US DOT, California's Air Resources Board Draft Technical Assessment Report of Greenhouse Gas Emissions and Fuel Economy Standards for Model Year 2022-2025 Cars and Light Trucks at ES-9, Sept. 26, 2016, Docket ID No. EPA-HQ-OAR-2015-0827, NHTSA's costs are approximately 42% higher than EPA's (NHTSA Table ES-2 v. EPA ES-4 Table ES-1).

[14] *See* Novation Analytics Comments on Draft Technical Assessment, Sept. 26, 2016; Docket ID No. EPA-HQ-OAR-2015-0827.

We urge EPA to reconsider imposing such a far-reaching mandate on an entire industry without adequately considering the consequences, and without giving stakeholders a meaningful opportunity to comment. The MY 2022-2025 standards threaten to depress an industry that can ill afford spiraling regulatory costs. If left unchanged, those standards could cause up to *1.1 million* Americans to lose jobs due to lost vehicle sales.[15] And low-income households would be hit the hardest.[16]

The Alliance is not asking EPA to make a different Final Determination at this time. All we are asking is that EPA withdraw the Final Determination and resume the Midterm Evaluation, in conjunction with NHTSA, consistent with the timetable embodied in EPA's own regulations. We believe that, if carried out as intended, the Midterm Evaluation can lead to an outcome that makes sense for all affected stakeholders and for society as a whole.

The Alliance welcomes the opportunity for further dialogue about ways to rekindle the industry's longstanding cooperation with EPA on these issues.

Sincerely,

Mitch Bainwol
President and CEO

Cc: Secretary Elaine Chao, DOT
Kevin Green, DOT
Bill Charmley, EPA
Chris Grundler, EPA
Michael Olechiw EPA
Rebecca Yoon, NHTSA
James Tamm, NHTSA
Mike McCarthy, CARB
Annette Hebert, CARB

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[15] McAlinden, Sean, et al., *The Potential Effects of the 2017-2025 EPA/NHTSA GHG/Fuel Economy Mandates on the U.S. Economy*, Center for Automotive Research (Sep. 2016) at 49. Referring to the $3.00 per gallon gasoline price $6,000 technology cost scenario.

[16] Walton, Tom, et al., *The Impact of Future Fuel Economy Standards on Low Income Households*, Defour Group LLC (Sep. 2016); Walton, Tom, et al., *Defour Group Response to EPA Rejoinders to Defour Group / Alliance of Automobile Manufacturers Submission Regarding the Regressivity/Affordability of EPA's Proposed Fuel Economy Standards*, (Dec. 2016).

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MAR 2 3 2017

OFFICE OF
AIR AND RADIATION

John Bozzella, President and CEO
Association of Global Automakers
1050 K Street, NW, Suite 650
Washington, DC 20001

Dear Mr. Bozzella,

Thank you for your letter of February 21, 2017, to U.S. Environmental Protection Agency Administrator Scott Pruitt regarding the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas (GHG) standards issued by the EPA on January 12, 2017. The Administrator has asked me to respond to you on his behalf.

On March 13, 2017, EPA Administrator Pruitt and Department of Transportation Secretary Chao signed a *Federal Register* notice announcing EPA's intention to reconsider the Final Determination. In accord with the schedule set forth in EPA's regulations, the EPA intends to make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation. If you have further questions, please contact me or your staff may contact Michael Olechiw at Olechiw.michael@epa.gov or at 734-214-4297.

Sincerely,

William J. Charmley, Director
Assessments and Standards Division

GlobalAutomakers

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February 21, 2017

Scott Pruitt
Administrator
Environmental Protection Agency
Office of the Administrator 1101A
1200 Pennsylvania Avenue, N.W.
Washington DC 20460

Attention: Docket ID No. EPA-HQ-OAR-2015-0827

RE: Petition for Reconsideration and Request to Withdraw Final Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (January 12, 2017)

Dear Administrator Pruitt:

The Association of Global Automakers, Inc. (Global Automakers)[1] respectfully petitions the United States Environmental Protection Agency (EPA) to reconsider its final Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (the "Determination"), and requests that the Determination be withdrawn. As explained below, EPA's premature Determination suffers from a multitude of procedural and substantive flaws. Most importantly, it is inconsistent with the coordinated process to which EPA committed in 2012 to ensure the development of "One National Program" to regulate fuel economy and greenhouse gas (GHG) emissions in coordination with the National Highway Traffic Safety Administration (NHTSA). Consequently, we are requesting that EPA withdraw the Determination and reopen the record so that EPA's rulemaking concerning GHG emission standards for model years (MY) 2022-2025 can be aligned with fuel economy rulemaking currently underway at NHTSA for those years.

[1] The Association of Global Automakers represents international motor vehicle manufacturers, original equipment suppliers, and other automotive-related trade associations. Our member companies have invested $56 billion in U.S.-based facilities, directly employ nearly 100,000 Americans, and sell 47 percent of all new vehicles purchased annually in the country. Combined, our members operate more than 300 production, design, R&D, sales, finance and other facilities across the United States. Working with industry leaders, legislators, and regulators in the United States, Global Automakers aims to create public policies that improve motor vehicle safety, encourage technological innovation, and protect our planet. Our goal is to foster an open and competitive automotive marketplace that encourages investment, job growth, and development of vehicles that can enhance Americans' quality of life. For more information, please visit www.globalautomakers.org.

A. Background

On January 12, 2017—just one week before the end of the previous administration—EPA published its final Determination concerning whether the GHG emissions standards currently on the books for MY 2022-2025 remain appropriate. This Determination was part of a "Midterm Evaluation" of those standards, a key protective mechanism that was included, at the insistence of the auto industry as a condition of its support of these regulations, in the 2012 joint EPA and NHTSA rule setting fuel economy and GHG emission standards covering MY 2017 through 2025.[2] Given that NHTSA is statutorily prevented from promulgating fuel economy standards governing more than a five-year period, and that the EPA standards were being set more than ten years into the future, having an objective and data-driven Midterm Evaluation is necessary to ensure that the future standards are feasible, cost-effective, and achieve the goals of the two relevant statutes under the One National Program.

Throughout the process of the Midterm Evaluation, both EPA and NHTSA made several commitments to the stakeholders. First, the agencies promised to remain aligned from both a procedural and substantive standpoint.[3] As was the case with the 2012 rulemaking, during the Midterm Evaluation the agencies were to jointly issue a proposed rulemaking/determination and a final rulemaking/ determination. This was necessary to ensure that One National Program is maintained and to protect manufacturers from having to comply with multiple inconsistent standards.

Second, EPA and NHTSA consistently stated that the final NHTSA rule and EPA determination were expected by April 1, 2018,[4] with a proposed rule and a proposed determination expected in the summer of 2017.[5] This timeline would allow the agencies to account for the most up-to-date and robust information concerning the light-duty fleet and the costs and effectiveness of the technologies needed to meet the standards. In developing information for the record, in allocating scarce automotive engineering

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[2] *See* 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624 (Oct. 15, 2012). The State of California has its own GHG emission standards for light duty vehicles, but has amended its regulations to include a "deemed-to-comply" provision whereby automakers could show compliance with its state GHG emission standards by complying with EPA GHG regulations. Together, the California regulations and the EPA/NHTSA standards are referred to as the "One National Program."

[3] *See* 77 Fed. Reg. at 62,633 (stating that EPA and NHTSA will act jointly in their proposed and final rulemaking in the Midterm Evaluation "[i]n order to align the agencies' proceedings for MYs 2022–2025 and to maintain a joint national program.")

[4] *Id.*

[5] *See* https://www.epa.gov/sites/production/files/2016-10/documents/grundler-sae-naipc-2015-09-17-presentation.pdf at 24 (indicating that the EPA Proposed Determination and NHTSA notice of proposed rulemaking would be released mid-2017 and the final determination made in April 2018).

resources, and in the expenditure of considerable sums, the industry relied upon this schedule and these repeated representations.

Finally, both EPA and NHTSA committed to a collaborative process that would fully account for the input of all stakeholders. To achieve this, the agencies stated that they would provide periods of public comment on the draft Technical Assessment Report (TAR) that EPA and NHTSA compiled in collaboration with the California Air Resources Board (CARB), and a separate period of comment with respect to EPA's and NHTSA's proposals concerning the MY 2022-2025 standards.[6] Given that the agencies' actions on this matter would affect billions of dollars of investments on the part of automakers as well as the types of vehicles that would be made available to customers for years (if not decades) to come, it is critically important that the agencies get it right.

Despite this carefully constructed (and fully promised) process, EPA unilaterally reversed course 22 days after the Presidential Election. On November 30, 2016, EPA abruptly announced that it was abandoning its previously committed-to plan on the Midterm Evaluation and published a lengthy "Proposed Determination" concerning the appropriateness of the MY 2022-2025 GHG standards. Signaling its new intent to rush through a final Determination before the end of the Obama Administration, EPA provided stakeholders with just 30 days from the release of the Proposed Determination on EPA's website to provide comments (which was only 24 days from the date the Proposed Determination was published in the Federal Register[7]). EPA was informed by many stakeholders that this comment period was far too short for an action of this magnitude and included a holiday period when many automakers are closed. Nevertheless, EPA's Final Determination was released on January 12, 2017.

When EPA announced the Proposed Determination, it styled its action as a "proposed adjudicatory determination."[8] EPA therefore took the position that its Determination could escape both the procedural requirements of Section 307 of the Clean Air Act[9] and the rulemaking provisions of the Administrative Procedures Act (APA).[10] In the Final Determination and Response to Comment, EPA rejected the argument made by Global Automakers and many other stakeholders that the Determination amounted to a rulemaking because it is a prospective action setting agency policy.[11] Consistent with its position that the Determination is not a rulemaking, EPA has not published the Determination in the Federal Register.

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[6] 77 Fed. Reg. at 62,784.
[7] 81 Fed. Reg. 87,927 (Dec. 6, 2016).
[8] See Proposed Determination at ES-2 and 2 n.2.
[9] 42 U.S.C. § 7607(d)
[10] 5 U.S.C. § 553
[11] *See* EPA Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation at 11, n.20.

B. EPA Has Ample Authority to Reconsider the Determination

Regardless of whether the Final Determination is considered a rule or an adjudication, this EPA has the authority to withdraw and reconsider it. In the event that the Determination is an adjudication (as the prior EPA claimed), then the agency has inherent authority to reconsider that decision. "It is widely accepted that an agency may, on its own initiative, reconsider its interim or even its final decisions, regardless of whether the applicable statute and agency regulations expressly provide for such review."[12] This is especially true where the underlying determination has "serious procedural and substantive deficiencies."[13] Unless a statute expressly limits an agency's authority to reconsider its decisions—which is not the case here—then the agency may freely do so as long as reconsideration occurs within a reasonable time after the first decision and notice of the agency's intent to reconsider is given to the parties.[14]

In the event that the Determination did amount to a rulemaking, then it is subject to withdrawal and reconsideration for two separate and independent reasons. First, the Federal Register Act requires that all documents of "general applicability and legal effect" be published in the Federal Register.[15] The EPA Final Determination has not been published in the Federal Register in contravention of this clear requirement. Thus, under President Trump's Memorandum for the Heads of Executive Departments and Agencies; Regulatory Freeze Pending Review,[16] if viewed as a rule the Final Determination can and should be withdrawn by the new Administration.

Second, an agency has inherent power to withdraw and reconsider a rule that suffers from fatal legal and procedural flaws.[17] Adhering to the proper procedures is a fundamental prerequisite for valid rulemaking.[18] Here, the Determination is invalid as a rule because EPA did not follow any of the procedural requirements set forth in Section 307(d) of the Clean Air Act. EPA did not convene a hearing to allow interested persons to comment on the Proposed Determination, and did keep the record of the proceedings open for 30 days to provide an opportunity for interested persons to submit rebuttal and supplementary information to the

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[12] *Dun & Bradstreet Corp. Found. v. United States Postal Serv.*, 946 F.2d 189, 193 (2d Cir. 1991). *See also ConocoPhillips Co. v. United States EPA*, 612 F.3d 822, 832 (5th Cir. 2010) ("Embedded in an agency's power to make a decision is its power to reconsider that decision."); *Gun South, Inc. v. Brady*, 877 F.2d 858 (11th Cir. 1989) (holding that Bureau of Alcohol, Tobacco, and Firearms had the implied authority to correct the erroneous approval of firearms import application).

[13] *Belville Mining Co. v. United States*, 999 F.2d 989, 998 (6th Cir. 1993).

[14] *Dun & Bradstreet*, 946 F.2d at 193.

[15] 44 USC 1505(a)(2).

[16] 82 Fed. Reg. 8346 (Jan. 24, 2017).

[17] *Citizens Against the Pellissippi Parkway v. Mineta*, 375 F.3d 412, 416 (6th Cir. 2004)

[18] *United States v. Utesch*, 596 F.3d 302, 312 (6th Cir. 2010) (stating that a "reviewing court must focus not merely on the ultimate rule but on the process of an administrative rulemaking; otherwise, an agency could always violate the APA's procedural requirements based on the representation that it would have adopted the same rule had the proper process been followed.")

record.[19] Presumably, the prior EPA ignored these requirements because to follow them would have prevented the agency from finalizing the Determination before the end of the Obama Administration. But politics is not a reason for running roughshod over important procedural protections found in the Clean Air Act.

C. EPA Should Withdraw the Determination and Reopen the Rulemaking Record to Maintain the One National Program EPA Promised

EPA's Determination is a significant action by the agency that will have far-reaching ramifications for the industry and the automobile driving public. EPA readily concedes that the MY 2022-2025 standards will increase the prices of new motor vehicles by a substantial amount (according to EPA's own estimates), and will impact the types of vehicles sold in the U.S. An action of this magnitude requires a thoughtful and collaborative decision-making process. Here, however, EPA opted for political expediency instead, and jammed through a Final Determination in the waning days of the lame-duck Administration.

The EPA Determination suffers from many procedural and substantive flaws, any one of which would justify withdrawing the rule and reopening the rulemaking record. Among them are:

- Failure to follow EPA regulations requiring coordination with NHTSA. The Midterm Evaluation was designed so that the actions of EPA and NHTSA would be carefully coordinated every step of the way. As explained in the preamble to the 2012 rulemaking, "[i]order to align the agencies' proceedings for MYs 2022–2025 and to maintain a joint national program, if the EPA determination is that its standards will not change, NHTSA will issue its final rule concurrently with the EPA determination."[20] This requirement is codified at 40 C.F.R. § 86.1818-12(h)(1)(vii), which requires EPA's Midterm Evaluation to account for "[t]he impact of the greenhouse gas emission standards on the Corporate Average Fuel Economy standards and a national harmonized program." Without providing any justification for its doing so, EPA violated this central tenet of the Midterm Evaluation by finalizing its Determination more than a year before NHTSA's rulemaking is expected to be completed and acted contrary to its own regulations. NHTSA is currently in the middle of its rulemaking process for MY 2022-2025 fuel economy standards, and its decision will be based on more up-to-date information than EPA's. Consequently, there is a risk that NHTSA will reach a different conclusion from EPA concerning appropriate standards for MY 2022-2025. This is the antithesis of the One National Program that EPA agreed to.

- Needlessly accelerating the timeline for the GHG Midterm Evaluation. Prior to November 2016, EPA had repeatedly represented that it would propose its determination/rulemaking in the summer of 2017 and finalize its actions by April 2018. Based on these representations, Global Automakers and other

[19] 42 U.S.C. § 307(d)(5).
[20] 77 Fed. Reg. at 62,633.

members of the auto industry commissioned several studies concerning the baseline light duty fleets and the technologies necessary to meet the current MY 2022-2025 standards. EPA was informed that these studies will be important for its determination but would not be complete until the promised mid-2017 timeframe. Additionally, EPA was urged to delay its actions so that it could account for the most up-to-date information concerning the technologies needed to meet the standards, their costs, and their impacts on consumers—as NHTSA is doing with its rulemaking. EPA ignored these calls and finalized its determination based on a record that was far from complete solely to rob the incoming Administration of an opportunity to have input on this important matter.

- Failure to provide an adequate period for public comment. The Proposed Determination and the accompanying Technical Support Document consisted of almost 1,000 pages, and cited almost 1,100 references, many of which are new or significantly revised since the earlier Draft TAR. Additionally, EPA conducted 102 new runs of the computer models it uses to assess the effectiveness of fuel saving technologies. Thirty days is an insufficient time period for stakeholders to fully review, analyze, and prepare detailed comments on an action as significant and complex as EPA's Determination – especially in light of the intervening national holidays. EPA offered no reasoned explanation as to why it was short-circuiting the comment period on such an important agency action.

- Failure to address the GHG emission program as a whole. In its rush to finalize its Determination, EPA answered only half the question, *i.e.*, whether the numeric standards expressed in the footprint-based curves remain appropriate. However, the GHG regulations also include program flexibilities that automakers rely on to meet the standards. These flexibilities provide incentives for the early adoption of advanced fuel-saving technologies and help manufacturers smooth out annual variability in compliance over several model years. They are an important aspect of the One National Program, and they provide real and lasting environmental benefits. EPA's failure to look at the entire program as a whole was inconsistent with the very purpose of the Midterm Evaluation.

- Failure to respond adequately to comments concerning consumer acceptance, cost and technology effectiveness. EPA received more than 100,000 public comments on the Proposed Determination.[21] Many of the comments from industry focused on the extent to which lack of consumer acceptance may impact the ability to achieve the standards, as well as the costs and effectiveness of the necessary technologies. The fact that EPA finalized its Determination a mere ***13 days*** after the close of the comment period demonstrates that the agency could not have adequately responded to all of these comments. Indeed, a review of the final Determination and the Response to Comments reveals that EPA did not provide adequate responses to the many comments given.

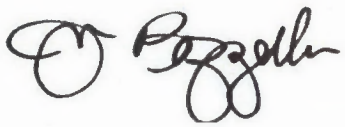
[21] *See* Determination at 1.

GlobalAutomakers

EPA's determination as to the appropriateness of the GHG emission standards for MY 2022 through 2025 was a significant action that will have wide-ranging implications for the automobile industry and the car-buying public. It was therefore important that EPA reach its decision based on an open and collaborative process, and only after fully considering all of the most up-to-date information concerning the costs and feasibility of the technologies necessary to meet the standards. Rather than adhering to such a process that it had agreed to and promised in 2012, EPA rushed through a Final Determination at the very end of the previous Administration. Therefore, we respectfully request that EPA: (a) withdraw the Determination, (b) reopen the record on the Midterm Evaluation, and (c) reset the timetable for EPA's actions so that they align with NHTSA's rulemaking.

Thank you for your prompt consideration of this matter.

Sincerely,



John Bozzella
President and CEO
Association of Global Automakers

cc: Secretary Elaine Chao, DOT
Kevin Green, DOT
Bill Charmley, EPA
Chris Grundler, EPA
Michael Olechiw, EPA
Rebecca Yoon, NHTSA
James Tamm, NHTSA
Alberto Ayala, CARB

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

MAR 2 3 2017

OFFICE OF
AIR AND RADIATION

Margie Alt, Executive Director
Environment America
218 D Street, SE 2nd Floor
Washington, DC 20003

Dear Ms. Alt:

Thank you for your letter of March 3, 2017, to U.S. Environmental Protection Agency Administrator Scott Pruitt regarding the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas (GHG) standards issued by the EPA on January 12, 2017. The Administrator has asked me to respond to you on his behalf.

On March 13, 2017, EPA Administrator Pruitt and Department of Transportation Secretary Chao signed a *Federal Register* notice announcing EPA's intention to reconsider the Final Determination. In accord with the schedule set forth in EPA's regulations, the EPA intends to make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation. If you have further questions, please contact me or your staff may contact Michael Olechiw at Olechiw.michael@epa.gov or at 734-214-4297.

Sincerely,

William J. Charmley, Director
Assessments and Standards Division

Fri Mar 03 15:01:13 EST 2017
Pruitt.Scott@epamail.epa.gov
Fw: Letter from NGOs about Mid-term Evaluation
To: CMS.OEX@epamail.epa.gov

For the Daily Reading File

Forwarded by Brian Hope

From: Jonna Hamilton <JHamilton@ucsusa.org>
Sent: Friday, March 3, 2017 1:36 PM
To: Pruitt, Scott
Subject: Letter from NGOs about Mid-term Evaluation

Administrator Pruitt,

Attached please find a letter from the heads of 8 Science, Energy, and Environment NGOs asking you not to roll back the Final Determination on light-duty vehicles.

Thanks,
Jonna

Jonna Hamilton
Senior Washington Representative
Clean Vehicles Program
Union of Concerned Scientists
1825 K Street NW, Suite 800
Washington, DC 20001
202-331-5451
JHamilton@ucsusa.org

March 3, 2017

Administrator Scott Pruitt
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

RE: Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation

Dear Administrator Pruitt,

We write in strong support of the 2017 Final Determination on the Appropriateness of Model Year 2022-2025 Light Duty Vehicle Greenhouse Gas Emissions Standards. The decision to complete the Environmental Protection Agency's (EPA) Midterm Evaluation process is supported by an extremely robust record, presented in the Technical Assessment Report that EPA and the National Highway Transportation Safety Administration (NHTSA) jointly released in July 2016 as well as additional responses and analyses accompanying the Proposed Determination four months later. At every step in the process, the technical analyses clearly demonstrated that these standards remain appropriate and leverage low-cost, available technologies that reduce greenhouse gas emissions, save fuel, enhance our nation's energy security, and save American consumers money at the pump. The Agency should therefore decline requests from industry trade groups to withdraw this Final Determination, which would unnecessarily re-open the EPA's Midterm Evaluation.

This Final Determination, released January 13, 2017, came as a result of a thorough and open process of review and consultation over the course of years, drawing on independent technical analysis and multiple opportunities for public comment. EPA's analysts solicited input from a wide range of stakeholders, including automobile manufacturers and suppliers, and took seriously and responded to that input. The Technical Assessment Report (TAR) released last year, on which this Final Determination is largely based, relies on extensive technical and economic analysis by three government agencies of the most current data available, including teardown studies to estimate costs, extensive vehicle testing to assess the wide variety of technologies deployable to achieve the standards, and full-vehicle simulation to project forward even further advances. In addition, the agencies held extensive meetings with all of the auto manufacturers well before they started writing the TAR and continued to solicit input from them throughout the process, ensuring that the industry input to the final document was robust. The conclusion drawn from this data was clear: automakers can comply with the standards with available, cost-effective technology. Manufacturers are bringing new conventional technologies to the market on time and at a faster pace and lower cost than the Agency projected in the 2012 rulemaking. In fact, EPA's analysis shows that automakers could actually *surpass* the 2025 standards, but the Agency decided to forego strengthening the standards in favor of enhancing the certainty needed to promote industry investment. The Agency considered the full range of in-depth technical, scientific and socioeconomic analyses, including those provided by industry stakeholders. Critically, the Agency found no basis for weakening or reversing the standards,

instead finding a clear and compelling basis to make the determination that the current MY2022-2025 standards remain appropriate.

Withdrawing the Final Determination at this point would create new and unnecessary uncertainty to industry and consumers—and put at risk the very real benefits that Americans have gained from the Light Duty Vehicle Greenhouse Gas Emissions Standards. These standards have driven innovation that has cut carbon pollution and fuel use from the average car, truck, and SUV, resulting in real savings for the average new car buyer the moment the vehicle leaves the lot. This innovation from suppliers and manufacturers has created thousands of new American jobs: the automotive industry has added nearly 700,000 good jobs since 2009.[1] In the years to come, the standards are slated to add thousands more jobs with investment in the technologies needed to meet these standards and compete in the global marketplace, and many more jobs indirectly as a result of consumers' expenditure of fuel savings.[2] The warnings of automaker trade groups notwithstanding, these manufacturers are enjoying record sales while continuing to sell more and more efficient cars, trucks, and SUVs to their consumers. And importantly, these standards have resulted in nearly $35 billion in savings at the pump for Americans while continuing to reduce emissions—taken in total, the MY2012-2025 standards finalized and reaffirmed by the EPA stand to save consumers more than $1 trillion over the lifetimes of these vehicles while eliminating 5 billion tons of carbon pollution.[3]

The groups requesting withdrawal of the Final Determination continue to reference outdated and critically flawed studies. In their requests, the trade groups make several claims that are plainly at odds with the factual record and are inconsistent with the real-world track record of job creation, innovation, and consumer savings these standards have delivered. For example, there is no rational basis for the assertion that these standards could cost 1.1 million jobs, a number which rests upon false assumptions and economic models that are not internally consistent. In claiming that more advanced technologies would be required to meet the standards, the trade organizations single out one scenario of an industry analysis but ignore another from the same report which shows that, in fact, the standards can be met with conventional technologies. And to suggest that these standards adversely impact low-income individuals is not only at odds with the peer-reviewed literature but strains credulity, since these standards will reduce the fuel costs of those for whom gas prices are the greatest burden. There is an extensive and well-established body of evidence refuting these industry assertions, which EPA analyzed as part of its thorough review, and our organizations plan to communicate further evidence to the Agency underscoring the fallacies and shortcomings of the trade groups' claims.

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[1] Bureau of Labor and Statistics. Current Employment Statistics (National): CES3133600101, CES4244110001, CES8081112001.

[2] BlueGreen Alliance and American Council for an Energy-Efficient Economy. 2012. *Gearing Up: Smart Standards Create Good Jobs Building Cleaner Cars*. http://aceee.org/research-report/e127

[3] EPA, Final Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards: Regulatory Impact Analysis (2010) (Tables 5-3, 6-18)
EPA, Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (2012) (Tables 10-32, 10-35)
EPA, Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (2016) (Tables IV.6, IV.13)

EPA is empowered to protect the health and welfare of Americans and to preserve the natural environment. The Agency would be derelict in its duty if, as administrator, you discarded clear scientific and technical evidence that supports reaffirming the Light Duty Vehicle Greenhouse Gas Standards. The record is clear: this policy reduces pollution, saves consumers money, spurs the development of cleaner technologies, and reduces the risks of climate change. Any decision that runs contrary to this extensive, well-documented record would be arbitrary and unlawful.

Accordingly, we strongly urge you to leave undisturbed the Agency's science-based determination that these standards remain appropriate. We hope you will consider the robust body of data supporting the Final Determination, which will continue the Agency's record of progress on cutting emissions and protecting Americans.

Sincerely,

Kenneth Kimmell, President
Union of Concerned Scientists

Rhea Suh, President
Natural Resources Defense Council

Fred Krupp, President
Environmental Defense Fund

Margie Alt, Executive Director
Environment America

Michael Brune, Executive Director
Sierra Club

Dan Becker, Director
Safe Climate Campaign

Steve Nadel, Executive Director
American Council for an Energy-Efficient Economy

Gene Karpinski, President
League of Conservation Voters

CC:
Secretary Elaine Chao, DOT
Kevin Green, DOT
Chris Grundler, EPA
Bill Charmley, EPA
Michael Olechiw, EPA
James Tamm, NHTSA
Rebecca Yoon, NHTSA
Mary Nichols, CARB
Alberto Ayala, CARB
Annette Hebert, CARB
Mike McCarthy, CARB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105-2498

JUN 15 2017

OFFICE OF
AIR AND RADIATION

Alice Henderson
Environmental Defense Fund
2060 Broadway, Suite 300
Boulder, Colorado 80302

Dear Ms. Henderson,

Thank you for your letter of June 6, 2017, to U.S. Environmental Protection Agency Administrator Scott Pruitt and U.S. Department of Transportation Secretary Elaine Chao urging the EPA to withdraw its Notice of Intention to reconsider the Final Determination of the midterm evaluation of greenhouse gas standards for model years 2022-2025. The Administrator has asked me to respond to you on his behalf.

In accord with the schedule set forth in EPA's regulations, the EPA intends to make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation. If you have further questions, please contact me or your staff may contact Michael Olechiw at Olechiw.michael@epa.gov or at 734-214-4297.

Sincerely,

William J. Charmley, Director
Assessments and Standards Division

Tue Jun 06 13:01:56 EDT 2017
Hope.Brian@epamail.epa.gov
FW: Letter Opposing Reopening Midterm Evaluation of GHG Standards for Light Duty Vehicles
To: CMS.OEX@epamail.epa.gov

From: Alice Henderson [mailto:ahenderson@edf.org]
Sent: Tuesday, June 06, 2017 11:16 AM
To: Pruitt, Scott <Pruitt.Scott@epa.gov>; A-AND-R-DOCKET <A-AND-R-DOCKET@epa.gov>; elaine.chao@dot.gov
Cc: Vera Pardee <vpardee@biologicaldiversity.org>; Andrew Linhardt <andrew.linhardt@sierraclub.org>
Subject: Letter Opposing Reopening Midterm Evaluation of GHG Standards for Light Duty Vehicles

Administrator Pruitt and Secretary Chao:

Attached please find a letter from Environmental Defense Fund, Center for Biological Diversity, and Sierra Club opposing your decision to reopen the midterm evaluation of greenhouse gas emissions standards for model year 2022–2025 light duty vehicles.

The robust technical record clearly establishes that these standards can be achieved at even lower costs and with greater benefits than the agencies originally estimated. And the forward-looking statutory frameworks under which the light duty standards are promulgated, coupled with the compelling evidence in and since the technical record demonstrating that the standards are appropriate, require that EPA, at a minimum, affirm the standards for MY 2022 through 2025 if it were to reconsider them.

On behalf of our millions of members across the country, we strongly urge you to withdraw the Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation.

Best regards,

Alice Henderson

Alice Henderson
Attorney

US Climate Legal & Regulatory Advocacy

Environmental Defense Fund
2060 Broadway, Suite 300
Boulder, CO 80302

T 303 447 7205

C 903 445 2146
ahenderson@edf.org
edf.org

June 6, 2017

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

The Honorable Elaine L. Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

Re.: Request to Withdraw *Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light Duty Vehicles,* 82 Fed. Reg. 14671, (Mar. 22, 2017)

Dear Administrator Pruitt and Secretary Chao:

On behalf of our millions of members across the country, we strongly urge EPA to withdraw its Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emission Standards for Model Year 2022-2025 Light Duty Vehicles (NOI)[1] and reaffirm the Final Determination.[2]

As its rationale for reopening the mid-term evaluation (MTE), EPA indicated that "it is appropriate to reconsider its Final Determination in order to allow additional consultation and coordination with NHTSA."[3] In other public statements, agency and administration officials have indicated that a focus on economic health and job creation has motivated the decision to reopen the review of the standards.[4] The agencies' NOI also comes amidst a broader review,

[1] Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light Duty Vehicles, 82 Fed. Reg. 14671, (Mar. 22, 2017).
[2] Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (January 2017), Doc. ID: EPA-420-R-17-001, *available at* https://www.regulations.gov/document?D_EPA-HQ-OAR-2015-0827-6270.
[3] 82 Fed. Reg. at 14672.
[4] *See, e.g.*, remarks of President Trump, American Center for Mobility (March 15, 2017), *available at* https://www.washingtonpost.com/video/politics/president-trumps-full-speech-in-ypsilanti-mich/2017/03/15/86765dd2-09b3-11e7-bd19-fd3afa0f7e2a_video.html (suggesting a review is necessary to determine "[i]f the standards threaten auto jobs").

initiated by the President, designed to identify and repeal health and environmental protections that are deemed to impact domestic fossil fuel production. This NOI and statements surrounding it are deeply concerning because they ignore the successful track record of fuel economy and greenhouse gas standards (and indeed the Clean Air Act more broadly)—one in which health protection, consumer savings and job creation have gone hand in hand. Equally concerning, the review fundamentally misapprehends EPA's proper role, statutory mandate, and expertise—not as an economic development authority, but instead as the agency with core responsibility for protecting the health of all Americans.

The decision to re-open the MTE based on these considerations is accordingly without merit and should be withdrawn. In light of the robust technical record and other data supporting the Final Determination, as well the agencies' statutory responsibilities to protect human health and enhance energy efficiency of motor vehicles, the adoption of any standards less stringent than the current standards would be arbitrary and unlawful.[5] Indeed, the extensive empirical record demonstrates that greater reductions are achievable and cost-effective, and that limiting vehicle emissions is vital for public health. Reconsideration is not warranted by the record, but if EPA is to reconsider its determination, the agency should consider strengthening the standards.

I. The Record Does Not Support EPA's Decision to Reconsider the Final Determination.

EPA, NHTSA, and the California Air Resources Board (ARB) jointly conducted a multi-year mid-term review of the MY 2022-2025 standards, amassing a robust record, including examination of technical and economic analyses, meetings with stakeholders, and consideration of hundreds of thousands of public comments. The resulting technical assessment report (TAR), on which EPA's Final Determination is based, reflects the findings and conclusions of all three agencies. And those findings are clear: the 2022-2025 standards are technically achievable and cost effective, and can be met without adverse economic impacts. Indeed, they more than pay for themselves in fuel savings alone.

The record supports a determination that the 2022-25 standards are technically achievable and cost-effective.

The Final Determination found that automakers are well positioned to meet the standards at lower costs than previously estimated and auto manufacturers and suppliers are developing and deploying fuel efficiency technologies at a much faster rate than was forecasted in the 2012 final

[5] Pursuant to the judicial review provisions of the Clean Air Act, a court reviewing EPA's GHG emission standards may reverse the action if it is found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 42 U.S.C. § 7607. Similarly, NHTSA's CAFE standards are subject to the Administrative Procedure Act, which authorizes a reviewing court to hold unlawful an agency action found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C. § 706.

rule. Indeed, while the standards fulfill the requirements of the Clean Air Act, EPA and independent analyses conducted before and after the Final Determination was issued show these standards could be more stringent. As noted in the Final Determination, the EPA Administrator chose to "retain the current standards to provide regulatory certainty for the auto industry despite a technical record that suggests the standards could be made more stringent."[6] These conclusions were based on analyses that reflected the most current data and assessment of the feasibility of the 2025 standards.[7]

An independent analysis commissioned by the Environmental Defense Fund (EDF) of four scenarios that were 10, 20, 30, and 40 g/mi more stringent than EPA's MY2025 target (173 g/mi) confirmed EPA's conclusion.[8] The study found that the target of 30 g/mi more stringent than EPA's MY2025 target can be met cost effectively with the same advanced gasoline vehicle technology pathways projected to be utilized to meet the existing MY2025 standards. Even at 30 g/mi more stringent than EPA's target, the lifetime fuel savings alone of about $2700 would more than offset the $1579 per vehicle cost of complying with more stringent standards even without including societal monetized benefits, and even if the very low levels of strong hybrid and EV sales assumed by EPA does not accelerate.

In parallel to EPA's determination, ARB staff released California's Advanced Clean Cars Midterm Review report in January 2017 confirming that "the current national 2022 through 2025 model year GHG standards can be readily met at the same or lower cost than originally projected and manufacturers will likely continue to make progress towards even more cost-effective solutions."[9] ARB subsequently voted unanimously to affirm the standards and move forward with more protective standards for post-2025 model years.[10] ARB's action was based on

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[6] EPA, "Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation," (January 2017). *See* https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg-final-determination ["Final Determination"]

[7] *See* EDF comments on the TAR and EPA's proposed determination for a more in-depth discussion of the technical record supporting the Final Determination. Comments by Environmental Defense Fund on the Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025 (September 26, 2016), Doc. ID: NHTSA-2016-0068-0066; Comments by Environmental Defense Fund on EPA's Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (December 30, 2016), Doc. ID: EPA-HQ-OAR-2015-0827-6201.

[8] *See* Comments by Environmental Defense Fund on EPA's Proposed Determination, *supra* note 7. The analysis used the modeling tool, OMEGA, which EPA relied upon for the Proposed Determination analysis and retained the same inputs and constraints that EPA used for the primary analysis in the Proposed Determination.

[9] ARB, "California's Advanced Clean Cars Midterm Review" (January 18, 2017), *available at* https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_summaryreport.pdf.

[10] ARB, "CARB finds vehicle standards are achievable and cost-effective" (March 24, 2017), *available at* https://www.arb.ca.gov/newsrel/newsrelease.php?id=908.

comprehensive, multi-year technical assessments and analyses by ARB staff, EPA staff and independent analysts that concluded that the standards for model years 2022 through 2025 are appropriate and feasible. The staff assessment found that the technology to achieve the standards "is not only currently available, but has exceeded the original expectations, both for level of development and cost, when the standards were adopted *with automaker support* in 2012."[11]

New studies conducted since the MTE concluded continue to point in favor of more stringent standards. In the Final Determination, the Administrator concluded that, "the current record, including the current state of technology and the pace of technology development and implementation, could support a proposal, and potentially an ultimate decision, to adopt more stringent standards for MY2022-2025."[12] Numerous independent researchers have since confirmed this conclusion. For example, an analysis by the International Council on Clean Transportation (ICCT), an independent research group, has concluded that EPA's previous costs of compliance were greatly overstated and that compliance costs for 2025 standards will be 34–40 percent lower than projected by EPA.[13] The ICCT study builds on the modeling and peer-reviewed research underlying EPA's and NHTSA's TAR by including new modeling of advanced vehicle technologies that were not included in the agencies' model, but are now available. ICCT found that continuing the standards at the current pace of improvement through 2030 is feasible and cost-effective. Such standards would result in modest, gradual vehicle price increases through 2030, and those costs would be outweighed by fuel cost savings by two to three times.[14]

EDF also commissioned an independent analysis, published in February 2017, which evaluates the feasibility and cost-effectiveness of reducing CO2 emissions from passenger vehicles by up to 90 grams per mile below the current 2025 model year standards. The study found that there are a significant number of key conventional technologies that are underutilized that significantly further the CO2 reductions that can be achieved by 2030, and also that the lifetime fuel savings would exceed the increased average vehicle price by a factor of nearly three for even the most protective standard considered.[15]

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[11] *Id*. (emphasis added).
[12] Final Determination at ES-8.
[13] Lutsey, Nic, et. al. "Efficiency technology and cost assessment for U.S. 2025–2030 light-duty vehicles," (2017), *available at* http://theicct.org/US-2030-technology-cost-assessment.
[14] *Id*.
[15] Cackette, Tom and Rykowski, Rick, "Technical Assessment of CO2 Emission Reductions for Passenger Vehicles in the Post-2025 Timeframe" (February 2017), *available at* https://www.edf.org/sites/default/files/content/final_public_white_paper_post_2026_co2_reductions2.27_clean.pdf.

The record already clearly demonstrates that compliance with the standards would not result in adverse economic impacts.

The record clearly shows that the costs of the 2022-2025 standards are far outweighed by the fuel cost savings—even without considering the very significant environmental benefits. And independent studies confirm that even more stringent standards are technologically feasible and again that the fuel cost savings to the consumer would outweigh the added cost of technology.

Since the depths of the economic recession in 2008, the auto industry has returned to profitability while at the same time fleet-wide fuel economy has climbed to its highest level ever. Drivers in the United States bought more cars in 2016 than ever before.[16] At the same time, the auto industry as a whole has exceeded the national fuel economy and GHG standards in each of the last four years.[17] During its return to profitability, the auto industry also added jobs. Since the recession, overall job growth in the industry has been strong, aiding a recovery of U.S. manufacturing as a whole. The U.S. auto industry has added nearly 700,000 direct jobs since mid-2009 – and these jobs support several million indirect jobs throughout the economy.[18] The Manufacturers of Emission Controls Association estimates that its member companies account for over 70,000 jobs across America in 2016 manufacturing emission control and efficiency technologies.[19] Even a recent methodologically flawed,[20] industry-commissioned report by the Center for Automotive Research (CAR)[21] assessing sales and employment impacts of the 2016-

[16] Los Angeles Times, "2016 U.S. auto sales set a new record high, led by SUVs" (January 4, 2017), http://www.latimes.com/business/autos/la-fi-hy-auto-sales-20170104-story.html (last accessed May 9, 2017).

[17] EPA, "Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends Report 1975-2016," (2016), *available at* https://www3.epa.gov/otaq/fetrends-complete.htm.

[18] BlueGreen Alliance, "Backgrounder: Sound Vehicle Standards & Policies Drive Strong Job Growth, *A summary of research and analysis of the impact of CAFE standards on job growth in the United States*." (June 2016), https://www.bluegreenalliance.org/resources/sound-vehicle-standards-policies-drive-strong-job-growth/ (last accessed March 10, 2017).

[19] MECA Highlights American Jobs, Economic Contribution of Mobile Source Emission Control and Efficiency Technology Industry, http://www.meca.org/attachments/2930/MECA_American_jobs_press_release_033017.pdf (last accessed May 9, 2017).

[20] The report's flaws have been well documented. *See* EPA, Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation, Technical Support Document, Chapter 4.2.1, Doc. ID: EPA-HQ-OAR-2015-0827-5941; Aaron Isenstadt, *The latest paper by the Center for Automotive Research is not what it thinks it is*, The International Council on Clean Transportation, October 12, 2016, http://www.theicct.org/blogs/staff/latest-paper-by-CAR-is-not-what-it-thinks-it-is, Doc. ID: ; Supplemental Comments by Environmental Defense Fund on EPA's Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (January 11, 2017), Doc. ID: EPA-HQ-OAR-2015-0827-6272.

[21] Center for Automotive Research, "The Potential Effects of the 2017-2025 EPA/NHTSA GHG/Fuel Economy Mandates on the U.S. Economy" (September 2016), *available at* http://www.cargroup.org/publication/the-potential-effects-of-the-2017-2025-epanhtsa-ghgfuel-economy-mandates-on-the-u-s-economy/.

2025 standards shows positive sales and an increase in jobs when its methodology is used with EPA's assumptions for costs and consumer purchasing decisions.[22] For example, EPA estimates that consumers consider five years of fuel savings, rather than CAR's assumed three years, when purchasing a vehicle.[23] There is no indication that continuing compliance with the standards will result in adverse economic impacts on the industry.

Automakers have confirmed their commitments to developing and deploying transformative fuel efficiency technologies—decisions grounded both in a desire to meet future standards and in a recognition of the important market opportunity that these vehicles of the future represent. In a 2016 SEC filing, General Motors stated: "We are investing significantly in multiple technologies offering increasing levels of vehicle electrification including eAssist, plug-in hybrid, full hybrid, extended-range and battery electric vehicles … We are fully committed to improving fuel efficiency and meeting regulatory standards."[24] And Ford Motor Company's former CEO, Mark Field, stated earlier this year: "As more and more consumers around the world become interested in electrified vehicles, Ford is committed to being a leader in providing consumers with a broad range of electrified vehicles, services and solutions that make people's lives better. Our investments and expanding lineup reflect our view that global offerings of electrified vehicles will exceed gasoline-powered vehicles within the next 15 years."[25]

Even if the record showed an adverse economic effect on the industry—which, as demonstrated above, it does not—the Clean Air Act would not allow EPA to elevate economic concerns above all others. Contrary to the statute, a narrow focus on economic effects appears to be the motivating factor behind the withdrawal. President Trump's executive orders,[26] the public comments of senior Administration officials,[27] and the NOI reopening the MTE indicate that the agency is focused exclusively on economic considerations, including factors that fall outside of

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[22] *See* Charmley, B., "EPA GHG Update for 2017 Fuel Economy Detroit" at 26 (March 16, 2017), *available at* https://www.epa.gov/sites/production/files/2017-03/documents/fuel-economy-detroit-2017-03-16.pdf (showing a net sales increase of 585,000 vehicles and national employment growth of 206,000 jobs).

[23] *Id*.

[24] General Motors Company, Form 10-K, *available at* https://www.sec.gov/Archives/edgar/data/1467858/000146785816000255/gm201510k.htm.

[25] Electrek, "Ford says electric vehicles will overtake gas in 15 years, announces all-electric 300-mile SUV, hybrid F-150, Mustang, and more," https://electrek.co/2017/01/03/ford-new-electric-cars/ (last visited May 9, 2017).

[26] *See, e.g.*, Exec. Order No. 13,783, 82 Fed. Reg. 16,093 (March 31, 2017); Exec. Order No. 13,777, 82 Fed. Reg. 12,285 (March 1, 2017).

[27] *See, e.g.*, Comments of Administrator Pruitt, *Trump to Sign New Order Rolling Back Obama Energy Regs*, Fox & Friends (Mar. 28, 2017), http://www.foxnews.com/politics/2017/03/28/trump-set-to-undo-obamas-action-against-global-warming.html. *See also* comments of a senior White House official, *Background Briefing on the President's Energy Independence Executive Order* (Mar. 27, 2017), https://www.whitehouse.gov/the-press-office/2017/03/27/background-briefing-presidents-energy-independence-executive-order.

the scope of the Clean Air Act. While EPA considers cost as one of several factors in setting vehicle standards, the NOI ignores the predominant purpose of section 202 of the Act: protecting the public from health-harming vehicle emissions. The Agency simply may not elevate costs above the predominant purpose of the statute.[28]

II. EPA and NHTSA Must Meet Their Respective Substantive Responsibilities under the Clean Air Act and the Energy Policy and Conservation Act (EPCA).

The CAA requires the EPA to regulate motor vehicle emissions which "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[29] Both the "may reasonably be anticipated" and "endanger" language reflect Congress' intent for EPA to act in a manner that prevents, rather than merely responds to, harm.[30] Similarly, Congress intended EPCA's fuel efficiency standards "to provide for improved energy efficiency of motor vehicles" in support of the Act's goal of reducing the demand for energy.[31] In establishing and administering standards for light-duty vehicles, EPA and NHTSA both operate under ambitious and forward-looking statutory frameworks. The agencies' authorizing statutes for the light-duty program contemplate the establishment of standards based on a consideration of advanced and emerging technologies.

Because of the important public health purpose and preventative nature of the CAA's mandate, EPA's authority to establish standards under it is far-reaching. CAA Section 202 standards take effect "after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period."[32] As the nation's highest court has recognized, the legislative history of the CAA underscores that Congress did not intend for EPA to be "limited by what is or appears to be technologically or economically feasible, but to establish what the public interest requires to protect the health of persons, even if that means that "*industries will be asked to do what seems to be impossible at the present time.*""[33] In directing that EPA set standards for future

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[28] *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172 (9th Cir. 2008).
[29] 42 U.S.C. § 7521(a)(1).
[30] *See Ethyl Corp. v. EPA*, 541 F.2d 1, 12 (D.C. Cir. 1976) ("endangers means something less than actual harm. When one is endangered, harm is threatened; no actual injury need ever occur").
[31] 42 U.S.C. § 6201(5), *see also* § 6201(1).
32 42 U.S.C. § 7521(a)(2).
[33] *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 490-91 (2001) (quoting 116 Cong. Rec. 32901-32902 (1970), 1 *Legislative History of the Clean Air Amendments of 1970* (Committee Report compiled for the Senate Committee on Public Works by the Library of Congress), Ser. No. 93-18, p. 227 (1974)(emphasis in original). *See also Natural Res. Def. Council, Inc. v. EPA*, 655 F.2d 318 (D.C. Cir. 1981) (upholding EPA's 1980 PM standards for light-duty diesel vehicles, and noting, "[t]he legislative history of both the 1970 and the 1977 amendments demonstrates that Congress intended the agency to project future advances in pollution control capability," and "[i]t was expected to press for the development and application of improved technology rather than be limited by that which exists today." (internal quotations and citations omitted).

dates that the agency determines will provide the appropriate length of time for the development of requisite technologies, Congress intended that EPA "press for the development and application of improved technology rather than be limited by that which exists today."[34] And when EPA has acted in accordance with its authority, standards have driven profound innovation to secure life-saving pollution reductions and have been cost-effective even without counting, as EPA must, these benefits. For instance, EPA standards under section 202 resulted in the development and proliferation of the catalytic converter in 1975 and the three-way catalyst in 1981.[35] Particulate standards for heavy-duty vehicles also resulted in the development of the diesel particulate filter.[36]

Likewise, under the Energy Conservation and Policy Act (EPCA) as amended by the Energy Independence and Security Act of 2007 (EISA), NHTSA's fuel economy standards must represent "the maximum feasible average fuel economy level that the Secretary [of Transportation] decides the manufacturers can achieve in that model year."[37] In granting the agency discretion to set "maximum feasible" standards for future model years, Congress instructed NHTSA to consider "technological feasibility, economic practicability, the effect of other motor vehicle standards of the Government on fuel economy, and the need of the United States to conserve energy."[38] It is within NHTSA's discretion to decide how to balance these factors, but the agency may not "put a thumb on the scale" to deem more stringent standards too costly.[39] Indeed, NHTSA must "monetize the value of carbon emissions" in its analysis.[40] Overall, NHTSA's weighing of relevant considerations must serve the intent of the light duty program; the agency's analysis may not "undermine the fundamental purpose of the EPCA: energy conservation."[41]

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[34] *Natural Res. Def. Council, Inc. v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981) (citing S. Rep. No.1196, 91st Cong., 2d Sess. 24 (1970), reprinted in 1 Legislative History 424; H.R. Rep. No.294, 95th Cong., 1st Sess. 273 (1977), reprinted in (1977) U.S. Code Cong. & Ad. News 1077, 1352, 4 Legislative History 2740).

[35] *See, e.g.*, Gerard, David and Lave, Lester B., *Implementing technology-forcing policies: The 1970 Clean Air Act Amendments and the introduction of advanced automotive emissions controls in the United States*, 72 Technological Forecasting and Social Change 761 (2005), *available at* http://repository.cmu.edu/tepper/1356/.

[36] *See, e.g.*, Wold, Chris, *Climate Change, Presidential Power, and Leadership: We Can't Wait*, 45 Case Western Reserve J. of Int'l Law 303, 346, *available at* http://law.case.edu/journals/jil/Documents/45CaseWResJIntlL1&2.15.Article.Wold.pdf.

[37] 49 U.S.C. § 32902(a).

[38] 49 U.S.C. § 32902(f).

[39] *Ctr. for Biological Diversity.*, 538 F.3d at 1198 ("Even if NHTSA may use a cost-benefit analysis to determine the "maximum feasible" fuel economy standard, it cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards.")

[40] *Ctr. for Biological Diversity*, 538 F.3d at 1227.

[41] *Ctr. for Biological Diversity*, 538 F.3d at1195.

To satisfy their statutory mandates, the agencies must consider all of the factors relevant to the appropriateness of the standards.[42] Here, EPA's MY2022-25 standards are conservative: they relied only on highly cost-effective technologies already in existence. Conversely, a review of these standards that focuses exclusively on economic considerations, without considering the benefits of the rule and the full suite of statutorily prescribed factors—principally among them the directive to safeguard the public health and welfare—would be inappropriate and manifestly unlawful.[43]

Agencies May Reverse the Course of Regulatory Policy Only When Such Reversal is Reasonable and Supported by the Record.

Any agency reversal of position must be supported by a reasoned explanation,[44] including a "rational connection between the facts found and the choice made."[45] As the basis for reversing course, the agencies may not offer a justification "that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."[46] Even when an agency does make new factual findings to support a new policy, if those findings contradict the prior record, the agency faces a higher burden in demonstrating that the change is reasoned.[47] An agency may not "disregard contrary or inconvenient factual determinations that it made in the past, any more than it can ignore inconvenient facts when it writes on a blank slate."[48]

Moreover, abrupt changes in course constitute "danger signals" that an agency is ignoring the will of Congress and acting inconsistently with its statutory mandate.[49] Such sudden policy shifts warrant scrutiny of the agency's reasoning for the change.[50]

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[42] *See, e.g., Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1084 (D.C. Cir. 1996) ("The court will uphold the EPA's final rule if EPA acted within its delegated statutory authority, considered all of the relevant factors, and demonstrated a reasonable connection between the facts on the record and its decision.") (internal quotation omitted). *See also Motor & Equipment Mfrs. Ass'n. v. EPA*, 627 F.2d 1095, 1116 (D.C. Cir. 1979) ("the determination of what is relevant turns in the first instance on analysis of the express language of the statute involved and the content given that language by implication from the structure of the statute, its legislative history, and the general course of administrative practice since its enactment. An administrative agency has no charter apart from the framework constructed by that analysis to enforce or otherwise consider whatever suits its or someone else's fancy.")

[43] *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)("*State Farm*") (A rule is arbitrary and capricious if the agency "has relied on factors which Congress has not intended it to consider," or "entirely failed to consider an important aspect of the problem").

[44] *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *State Farm*, 463 U.S. at 42.

[45] *State Farm*, 463 U.S. at 43 (citation omitted).

[46] *Id*.

[47] *FCC*, 556 U.S. at 515 (When an agency's "new policy rests upon factual findings that contradict those which underlay its prior policy," the agency must "provide a more detailed justification than what would suffice for a new policy created on a blank slate.")

[48] *Id*.

[49] *State Farm Mut. Auto. Ins. Co. v. DOT*, 680 F.2d 206, 221 (D.C. Cir. 1982).

[50] *Natural Res. Def. Council, Inc. v. EPA*, 683 F.2d 752, 760 (3d Cir. 1982).

Accordingly, EPA and NHTSA may not ignore the extensive technical record supporting the Final Determination, and the agencies must provide a reasoned explanation for any departure from those factual findings. This bar is especially high in instances where, as here, the record is extremely robust and so strongly supports, at a minimum, maintaining the agencies' current course of action.

III. Process Concerns Do Not Warrant a Reconsideration of the Final Determination.

EPA's NOI announced an intent "to coordinate its reconsideration with the parallel process to be undertaken by the DOT's NHTSA."[51] The contention—which closely tracks arguments made by auto industry groups[52]—that EPA failed to consult and coordinate with NHTSA, is inaccurate and does not provide a basis for EPA's NOI. A recent letter from Administrator Pruitt to California Governor Jerry Brown similarly mischaracterizes the procedural history of the light-duty standards that EPA, NHTSA, ARB, and stakeholders—including the auto industry—have undertaken together.[53]

EPA and NHTSA have worked together to develop these standards since the beginning of the Phase 1 rulemaking process, performing coordinated feasibility analyses to inform both the Phase 1 and Phase 2 standards, which were both overwhelmingly supported by the auto industry. Likewise, the MTE process was conceived and agreed upon by automakers, EPA, NHTSA and ARB during the development of the 2012 Phase 2 standards. The MTE was designed as an administrative reassessment of the costs and technologies that informed the 2012 rulemaking in light of current realities, to inform whether the MY2022-2025 standards remain appropriate, or warrant upward or downward revision. It was never guaranteed to result in any change to the standards as promulgated after thorough analysis in 2012. The agreed process required a draft Technical Assessment Report (TAR) jointly developed by EPA, NHTSA and ARB with opportunity for public comment, and EPA's Proposed Determination with opportunity for public comment.

As planned, the agencies jointly conducted a multi-year mid-term review, amassing a robust record, including extensive data-gathering, examination of technical and economic analyses, meetings with stakeholders, and consideration of hundreds of thousands of public comments

[51] 82 Fed. Reg. 14671.
[52] Letter from Alliance of Automobile Manufacturers to Administrator Pruitt (February 21, 2017), *available at* https://autoalliance.org/wp-content/uploads/2017/02/Letter-to-EPA-Admin.-Pruitt-Feb.-21-2016-Signed.pdf; Letter from Global Automakers, Inc. to Administrator Pruitt (February 21, 2017), *available at* https://www.globalautomakers.org/system/files/document/attachments/2017-02-21_request_to_withdraw_final_determination.pdf.
[53] Letter from Administrator Pruitt to California Governor Jerry Brown (May 2, 2017), *available at* https://www.eenews.net/assets/2017/05/05/document_cw_01.pdf.

collected in response to the draft TAR and the proposed determination. EPA then issued its Final Determination finding that the MY2022-2025 standards are technically achievable and cost effective, and can be met without adverse economic impacts. The TAR, on which EPA's Final Determination is based, reflects the findings and conclusions of all three agencies—fully encompassing NHTSA's views as to feasibility.

Contrary to auto industry claims, the MTE was conducted over an extended period with two separate opportunities for public comment. In contrast, the NOI was issued abruptly without notice or request for public comment. It appears the NOI responds to auto industry association letters submitted in late February, requesting a reopening of the review;[54] there is no record of EPA consultation with any other stakeholders. If undertaken, the proceeding that the NOI initiates will require proper process and transparency, including notice to interested parties, and opportunity for input and participation.[55]

IV. The Final Determination—Preserving the MY 2022-2025 Standards—Is a Critical Step in the Path toward Energy Efficiency and Healthy, Clean Air.

The light-duty greenhouse gas and fuel economy standards are on the path to significantly curbing CO2 emissions from the transportation sector. However, despite these reductions, and in part due to increased vehicle-miles of travel (VMT), total emissions from the sector continue to increase. Transportation surpassed the power sector in CO2 emissions for the first time in 2016.[56] In fact, the U.S. transportation sector was the only sector with increased CO2 emissions in 2016.

Cars and light trucks emit many other harmful pollutants, and their emissions contribute significantly to air pollution around roads – major roadways and surrounding neighborhoods typically have elevated concentrations of harmful pollutants. Roadside exposure is a pervasive problem affecting millions of people in the United States: more than 50 million U.S. residents live, work, or attend school near high-traffic roadways, and the average American travels along roads for over an hour a day.[57] The risks are particularly high for minorities and persons of lower socioeconomic status, because these groups constitute a higher percentage of the

[54] *See supra* note 47.
[55] Moreover, NHTSA will be subject to National Environmental Policy Act (NEPA) requirements if its forthcoming de novo rulemaking alters the standards proposed in the 2012 rulemaking in any way. Pursuant to NEPA, when NHTSA begins a rulemaking process, and is determining the level at which to set fuel efficiency standards, it must incorporate into its analysis a comparison of the potential environmental impacts of the proposed action to those of a reasonable range of alternatives. If a new environmental analysis is required, the Agency must fulfill its legal obligation to do a thorough and transparent job of estimating the full suite of social and environmental benefits, both monetized and non-monetized, of the proposed alternatives.
[56] EIA, Today In Energy, https://www.eia.gov/todayinenergy/detail.php?id_30712&src_email (last visited May 9, 2017).
[57] 78 Fed. Reg. at 29,819, 29,837.

population near major roadways.[58] Moreover, a recent investigation determined that almost 8,000 U.S. public schools, serving about 4.4 million students across every state in the country—as well as thousands more private schools and Head Start centers—are within 500 feet of highways, truck routes and other roadways with heavy traffic,[59] where health-harming pollutants from vehicle exhaust are at the highest levels.[60] The American Lung Association's 2017 State of the Air report found that even with continued improvement, more than 125 million people in the United States live where the air is unhealthy for them to breathe.[61]

The agencies estimate that the light-duty standards will eliminate six billion metric tons of carbon pollution over the life of the vehicles subject to the standards,[62] which is more than a year's worth of U.S. carbon emissions.[63] Without the standards, emissions from the sector would rise considerably. The standards will enhance our nation's energy security by reducing oil consumption by two million barrels per day by 2025 – more than we import from any country other than Canada.[64] As these more efficient vehicles become a greater percentage of the nation's fleet, oil savings will grow and ultimately reach over 4 million barrels per day–more than we import from all OPEC countries combined.[65] Over the lifetime of the program, these savings amount to over 12 billion barrels of oil, enhancing American energy independence.

Reconsideration is not warranted by the record, but if EPA is to reconsider its determination, the agency should strengthen the standards. The extensive empirical record demonstrates that greater reductions are achievable and cost-effective, even without monetizing the crucial health and environmental benefits. While carcinogenic and climate-destabilizing pollutants continue to imperil public health and welfare, any weakening of the standards or delay of compliance timeframes would be fundamentally contrary to the agencies' duties to fulfill their statutory mandates.

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[58] 78 Fed. Reg. at 29,837.

[59] The Center for Public Integrity, "The invisible hazard afflicting thousands of schools" (February 17, 2017), *available at* https://www.publicintegrity.org/2017/02/17/20716/invisible-hazard-afflicting-thousands-schools.

[60] EPA, Best Practices for Reducing Near-Road Pollution Exposure at Schools (November 2015), *available at* https://www.epa.gov/sites/production/files/2015-10/documents/ochp_2015_near_road_pollution_booklet_v16_508.pdf.

[61] American Lung Association, "State of the Air 2017," (2017), available at http://www.lung.org/assets/documents/healthy-air/state-of-the-air/state-of-the-air-2017.pdf.

[62] Driving Efficiency: Cutting Costs for Families at the Pump and Slashing Dependence on Oil, https://obamawhitehouse.archives.gov/sites/default/files/fuel_economy_report.pdf.

[63] EIA, U.S. Energy-Related Carbon Dioxide Emissions, 2015, http://www.eia.gov/environment/emissions/carbon/ (last visited May 9, 2017).

[64] EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[65] EIA, Frequently Asked Questions, https://www.eia.gov/tools/faqs/faq.php?id=727&t=6 (last visited May 9, 2017).

V. Conclusion.

We strongly urge EPA to withdraw its NOI to reconsider the MY 2022-25 standards. The NOI is not supported by the evidence in the factual record. The findings in the joint TAR document clearly establish that the Phase 2 standards can be achieved at even lower costs and with greater benefits than the agencies originally estimated. The forward-looking statutory frameworks under which the light duty standards are promulgated, coupled with the compelling evidence in and since the technical record demonstrating that the standards are appropriate, require that EPA, at a minimum, affirm the Phase 2 standards for MY 2022 through 2025 if it were to reconsider them. Indeed, anything less would be arbitrary and unlawful.

Respectfully submitted,

Alice Henderson
Attorney
Environmental Defense Fund

Vera Pardee
Senior Counsel
Center for Biological Diversity

Andrew Linhardt
Associate Director for Federal Advocacy
Sierra Club

E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Eric T. Schneiderman
Attorney General of New York
The Capitol
Albany, New York 12224-0341

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

On March 22, 2017, the EPA and the U.S. Department of Transportation published a *Federal Register* notice announcing the EPA's intention to reconsider the Final Determination. We will adhere to the schedule set forth in the 2012 final rule that established the Midterm Evaluation. According to that schedule, the EPA will make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation.

Respectfully yours,

E. Scott Pruitt

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Karl A. Racine
Attorney General of the District of Columbia
P.O. Box 6229
Washington, D.C. 20044

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Tom Miller
Attorney General of Iowa
1305 East Walnut Street
Des Moines, Iowa 50319

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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Respectfully yours,

E. Scott Pruitt

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Janet T. Mills
Attorney General of Maine
6 State House Station
Augusta, Maine 04333

Dear Madam Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

On March 22, 2017, the EPA and the U.S. Department of Transportation published a *Federal Register* notice announcing the EPA's intention to reconsider the Final Determination. We will adhere to the schedule set forth in the 2012 final rule that established the Midterm Evaluation. According to that schedule, the EPA will make a new Final Determination regarding the appropriateness of the MY 2022-2025 GHG standards no later than April 1, 2018. The *Federal Register* notice and other information regarding the Midterm Evaluation is available at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg.

Again, thank you for your letter and for your continued interest in the Midterm Evaluation.

Respectfully yours,

E. Scott Pruitt

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Ellen F. Rosenblum
Attorney General of Oregon
1162 Court Street, NE
Salem, Oregon 97301-4096

Dear Madam Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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Again, thank you for your letter and for your continued interest in the Midterm Evaluation.

Respectfully yours,

E. Scott Pruitt

1200 PENNSYLVANIA AVE. NW • MAIL CODE 1101A • WASHINGTON, DC 20460 • (202) 564-4700 • FAX: (202) 501-1450

E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Brian E. Frosh
Attorney General of Maryland
200 Street Paul Place, 20th Floor
Baltimore, Maryland 21202

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable George Jepsen
Attorney General of Connecticut
55 Elm Street
Hartford, Connecticut 06106

Dear Mr. Attorney General:

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E. Scott Pruitt
Administrator

July 26, 2017

The Honorable Patrick McDonnell
Secretary, Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, Pennsylvania 17105-2063

Dear Mr. Secretary:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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E. Scott Pruitt

1200 Pennsylvania Ave. NW • Mail Code 1101A • Washington, DC 20460 • (202) 564-4700 • Fax: (202) 501-1450

E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Maura Healey
Attorney General of Massachusetts
P.O. Box 15
Boston, Massachusetts 02137

Dear Madam Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Matthew P. Denn
Attorney General of Delaware
Carvel State Building
820 North French Street
Wilmington, Delaware 19801

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Thomas J. Donovan
Attorney General of Vermont
109 State Street
Montpelier, Vermont 05609

Dear Mr. Attorney General:

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Douglas S. Chin
Attorney General of Hawaii
425 Queen Street
Honolulu, Hawaii 96813

Dear Mr. Attorney General:

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Peter F. Kilmartin
Attorney General of Rhode Island
150 South Main Street
Providence, Rhode Island 02903

Dear Mr. Attorney General:

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Bob Ferguson
Attorney General of Washington
1125 Washington Street, SE
Olympia, Washington 98504-0100

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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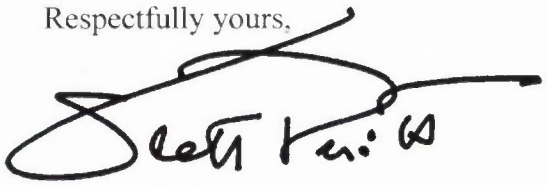

E. Scott Pruitt

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E. SCOTT PRUITT
ADMINISTRATOR

July 26, 2017

The Honorable Josh Shapiro
Attorney General of Pennsylvania
Strawberry Square, 16th Floor
Harrisburg, Pennsylvania 17120

Dear Mr. Attorney General:

Thank you for writing to share your thoughts about the Midterm Evaluation Final Determination for model year 2022-2025 greenhouse gas standards issued by the U.S. Environmental Protection Agency on January 12, 2017.

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Mon Jun 12 11:10:12 EDT 2017
Hope.Brian@epamail.epa.gov
FW: Letter on Vehicle Emission Standards
To: CMS.OEX@epamail.epa.gov

Assign to OCIR with copies as appropriate

From: Michael J. Myers [mailto:Michael.Myers@ag.ny.gov]
Sent: Thursday, June 08, 2017 9:30 PM
To: Pruitt, Scott <Pruitt.Scott@epa.gov>
Subject: Letter on Vehicle Emission Standards

Administrator Pruitt—

Please find attached correspondence from 13 Attorneys General and the Secretary of the Pennsylvania Department of Environmental Protection. The original letter is en route by regular mail.

Sincerely,

Michael J. Myers
Senior Counsel for Air Pollution and Climate Change Litigation
Environmental Protection Bureau
New York State Attorney General
The Capitol
Albany, NY 12224

Attorneys General of New York, Connecticut, Delaware, the District of Columbia, Iowa, Maine, Maryland, Massachusetts, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington and the Secretary of the Commonwealth of Pennsylvania Department of Environmental Protection

June 8, 2017

E. Scott Pruitt
Administrator, United States Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Re: Midterm Evaluation of Emission Standards for Passenger Cars and Light Duty Trucks for Model Years 2022-25

Dear Administrator Pruitt:

The undersigned Attorneys General and the Secretary of the Commonwealth of Pennsylvania Department of Environmental Protection submit this letter in response to your letter to California Governor Brown dated May 2, 2017, regarding the Environmental Protection Agency's midterm evaluation of the current federal standards for greenhouse gas emissions from cars and light-duty trucks. We write to express our strong disagreement with your contention that EPA's midterm evaluation process was legally flawed. If you seek to roll back these important standards, we intend to pursue appropriate legal action to defend them in court.

Background

The federal standards for model years 2022-25—together with the parallel standards California enacted and many of our states voluntarily adopted—will substantially cut the greenhouse gas emissions that cause climate change as well as reduce the pollutants that cause smog and foul the air that people breathe. Cars and light-duty trucks emit about 20 percent of greenhouse gases (mostly carbon dioxide) from fossil fuel combustion in this country. All told, these vehicles emit well over a trillion tons in greenhouse gases each year from their tailpipes, emissions that are raising the amount of carbon dioxide in the atmosphere to levels that are already producing increasingly intense climate-change impacts such as sea-level rise, extreme weather, and ocean acidification.

In 2009, the principal U.S. automotive regulators—EPA, the California Air Resources Board, and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA)—partnered with the auto industry and other stakeholders to assess how best to reduce greenhouse gas emissions using readily available and affordable technologies. This cooperation resulted in the 2012 rulemaking, which set increasingly stringent standards for greenhouse gas emissions from cars and light-duty trucks for the 2017-25 model years. 77 Fed. Reg. 62,624 (Oct. 15, 2012). In addition to substantially cutting carbon pollution—by the equivalent of the annual emissions of 422 million cars currently on the road—these standards limit nitrogen oxide and other smog-forming emissions that trigger asthma attacks. And by improving the fuel economy of these vehicles, the standards will reduce our country's dependence on foreign oil.

To confirm achievability of the more stringent standards for model years 2022-25, EPA agreed to complete a midterm evaluation by April 2018. 40 C.F.R. § 86.1818-12(h). EPA had to

consider several factors in its evaluation, including the availability and effectiveness of technology, the costs to manufacturers and consumers, and the impact of the standards on emission reductions, energy security, fuel savings, and automobile safety. *Id.*, § 86.1818-12(h)(1).

EPA followed the process set forth in its regulations. First, after extensive research, EPA issued a draft Technical Assessment Report (TAR) jointly with NHTSA and CARB last summer, which found that the existing standards for model years 2022-25 can be met using existing available technology. EPA provided a 60-day public comment period, assessed those comments, and issued a draft final decision to maintain the current standards. EPA subsequently provided a 30-day comment period on the draft final decision and considered those public comments prior to issuing its final determination affirming the standards in January 2017. EPA concluded that the current standards are feasible at reasonable cost, will achieve significant carbon dioxide emissions reductions, and will provide significant economic and environmental benefits to consumers.

Indeed, even though EPA concluded that the record regarding the automakers' fuel economy technologies supported making the standards *more* stringent, it decided that regulatory certainty weighed in favor of keeping the current standards in place.

EPA's Midterm Evaluation Complied with Applicable Law and is Consistent with the Facts

In light of these facts, the characterization in your May 2 letter that EPA "circumvented" the required legal and scientific processes in its midterm evaluation is erroneous and inconsistent with your stated desire to "follow the letter of the law." First, although your letter contends there was insufficient opportunity for public comment during the process, EPA followed the regulatory requirements for seeking and considering public comments on both the draft TAR and the draft decision to maintain the current standards. *See* 40 C.F.R. § 86.1818-12(h)(2)(ii), (iii).

Second, your assertion that EPA deviated from the "required process" by not submitting these draft documents to the Office of Management and Budget (OMB) or the Department of Transportation is completely unfounded. Neither OMB nor DOT review is required for the midterm evaluation under the 2012 rule. *See* 40 C.F.R. § 86.1818-12(h).

Third, your argument that EPA acted prematurely by completing the midterm evaluation over a year ahead of the deadline finds no support in the language of the regulations. With respect to both the publication of the draft TAR and the final decision, the regulations prescribe deadlines by which the agency must act. *See id.*, § 86.1818-12(h)(1) (requiring EPA to issue its final determination by "[n]o later than April 1, 2018") and (h)(3) (requiring EPA to publish its draft TAR by "no later than November 15, 2017"). Although EPA is often faulted for *missing* deadlines, we are unfamiliar with any occasion on which the EPA Administrator has criticized his own agency for fulfilling its regulatory obligations *ahead* of schedule.

More fundamentally, it would have served no purpose for EPA to delay issuing its final decision until the last possible moment. As Governor Brown pointed out to you in his letter dated March 15, 2017, there are at least three separate reports by scientists, engineers, and other

experts analyzing the standards and concluding that they are feasible. The record is clear that appropriate technology exists *now* for automakers to achieve the current standards for model years 2022-25 at a reasonable cost. The timing of EPA's action reflected the reality that, as a result of their technological resourcefulness, automakers were already ahead of schedule in complying with the standards to date and that conditions were ripe to assess the technology available for the later model years. The reasonableness of EPA's determination was further confirmed by the decision reached by CARB in March that its parallel standards—which many of our states have adopted—are readily achievable by automakers. *See* California Air Resources Board, Resolution No. 17-3 (March 24, 2017), pp. 7, 15-16, https://www.arb.ca.gov/board/res/2017/res17-3.pdf.

In his March 15 letter, Governor Brown said California was prepared to take all necessary steps to preserve the current standards. In our view, EPA's midterm evaluation was lawful and fully supported by the record. And in light of the critical public health and environmental benefits the standards will deliver, if EPA acts to weaken or delay the current standards for model years 2022-25, like California, we intend to vigorously pursue appropriate legal remedies to block such action.

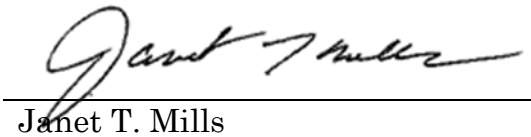
Ultimately, we are hopeful that you meant what you said in your opening in your letter to Governor Brown—that you too seek "cleaner and more efficient vehicles" and that you are committed to "the principles of cooperative federalism underlying environmental statutes." No environmental statute embodies those principles of cooperative federalism more fully than the Clean Air Act. And few steps would be simpler to ensure cleaner and more efficient vehicles than EPA's keeping in place its current standards for greenhouse gas emissions for cars and light duty trucks.

Sincerely,

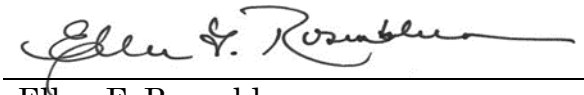
Eric T. Schneiderman
Attorney General of New York

Karl A. Racine
Attorney General of the District of Columbia

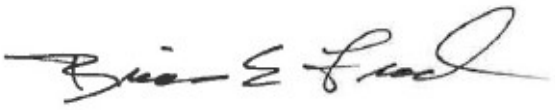
Tom Miller
Attorney General of Iowa



Janet T. Mills
Attorney General of Maine



Ellen F. Rosenblum
Attorney General of Oregon



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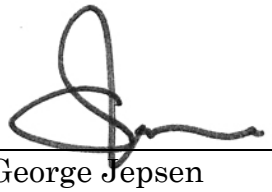
Attorney General of Maryland



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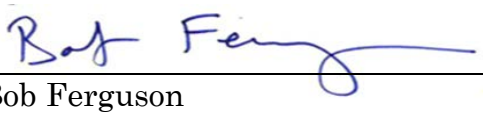
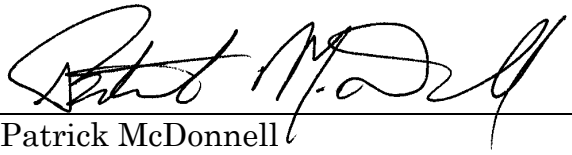
Attorney General of Pennsylvania



Bob Ferguson
Attorney General of Washington



Patrick McDonnell
Secretary of the Commonwealth of Pennsylvania Department of Environmental Protection

Maura Healey
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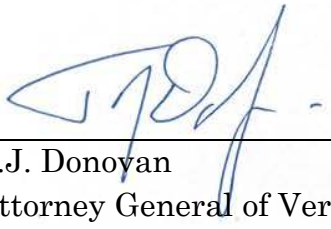
Matthew P. Denn
Attorney General of Delaware



T.J. Donovan
Attorney General of Vermont

Final Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation

U.S. Environmental Protection Agency

Publication number: EPA-420-R-17-001

January 2017

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Table of Contents

Executive Summary

The 2012 rulemaking establishing the National Program for federal greenhouse gas (GHG) emissions and corporate average fuel economy (CAFE) standards for model years (MY)2017-2025 light-duty vehicles included a regulatory requirement for the Environmental Protection Agency (EPA) to conduct a Midterm Evaluation (MTE) of the GHG standards established for model years (MY)2022-2025.[1] In this final order, the Administrator is making a final adjudicatory determination (hereafter "determination") that, based on her evaluation of extensive technical information available to her and significant input from the industry and other stakeholders, and in light of the factors listed in the 2012 final rule establishing the MY2017-2025 standards, the MY2022-2025 standards remain appropriate under section 202 (a) (1) of the Clean Air Act. This action leaves those standards entirely as they now exist, unaltered. The regulatory status quo is unchanged. This final order constitutes a final agency action. See 76 FR 48763 (Aug. 9, 2011).

This Final Determination follows the November 2016 Proposed Determination issued by the EPA Administrator and the July 2016 release of a Draft Technical Assessment Report (TAR), issued jointly by the EPA, the National Highway Traffic Safety Administration (NHTSA), and the California Air Resources Board (CARB). Opportunities for public comment were provided for both the Draft TAR and the Proposed Determination. In the Draft TAR, the agencies examined a wide range of issues relevant to GHG emissions standards for MY2022-2025, and shared with the public their initial technical analyses of those issues. The Draft TAR was required by EPA's regulations as the first step in the Midterm Evaluation process. In developing the Proposed Determination, the Administrator considered public comments on the Draft TAR and EPA updated its analyses where appropriate in response to comments and to reflect the latest available data. The Administrator has likewise considered public input on the Proposed Determination in developing this Final Determination.

As the final step in the MTE, the Administrator must determine whether the MY2022-2025 GHG standards, established in 2012, are still appropriate under section 202(a)(1) of the Clean Air Act (Act), in light of the record before the Administrator, given the latest available data and information. EPA's regulations establish April 1, 2018, as the latest date for such a determination, but otherwise do not constrain the Administrator's discretion to select an earlier determination date. The Administrator is choosing to make the Final Determination now, recognizing that long-term regulatory certainty and stability are important for the automotive industry and will contribute to the continued success of the program, which in turn will reduce emissions, improve fuel economy, deliver significant fuel savings to consumers, and benefit public health and welfare.

EPA received more than 100,000 public comments on the Proposed Determination, with comments from about 60 organizations and the rest from individuals. These public comments have informed the Administrator's Final Determination, and EPA has responded to those comments in the accompanying Response to Comments (RTC) document. This record[2]

[1] 40 CFR 86.1818-12(h).

[2] This record, the basis for the Administrator's determination, is contained in EPA Docket ID No. EPA-HQ-OAR-2015-0827.

represents the most current information available, as informed by public comment, and provides the basis for the Administrator's Final Determination, as called for in the 2012 rule.

The EPA regulations state that in making the required determination, the Administrator shall consider the information available on the factors relevant to setting greenhouse gas emission standards under section 202(a) of the Clean Air Act for model years 2022 through 2025, including but not limited to:

- The availability and effectiveness of technology, and the appropriate lead time for introduction of technology;
- The cost on the producers or purchasers of new motor vehicles or new motor vehicle engines;
- The feasibility and practicability of the standards;
- The impact of the standards on reduction of emissions, oil conservation, energy security, and fuel savings by consumers;
- The impact of the standards on the automobile industry;
- The impacts of the standards on automobile safety;
- The impact of the greenhouse gas emission standards on the Corporate Average Fuel Economy standards and a national harmonized program; and
- The impact of the standards on other relevant factors.[3]

This Final Determination is the Administrator's final decision on whether or not the MY2022-2025 standards are appropriate under section 202(a)(1) of the Clean Air Act, in light of the record now before the Administrator. EPA's regulations specify that the determination shall be "based upon a record that includes the following:

- A Draft Technical Assessment Report addressing issues relevant to the standard for the 2022 through 2025 model years;
- Public comment on the Draft Technical Assessment Report;
- Public comment on whether the standards established for the 2022 through 2025 model years are appropriate under section 202(a) of the Clean Air Act; and
- Such other materials the Administrator deems appropriate."[4]

The EPA has now concluded all the required steps in the MTE process and the record upon which the Administrator is making this Final Determination reflects all the elements specified in the regulations. As discussed above, EPA issued (jointly with NHTSA and CARB) the July 2016 Draft Technical Assessment Report (TAR) and sought public comment on it. EPA updated

[3] 40 CFR 86.1818-12(h)(1).
[4] 40 CFR 86.1818-12(h)(2).

its Draft TAR assessment in response to public comments as part of the November 2016 Proposed Determination. EPA also sought public comment on the Proposed Determination that the GHG standards for MY2022-2025 remain appropriate under section 202 (a)(1) of the Act. If those comments had included information that led the Administrator to the determination that the standards are inappropriate, EPA would then have had to initiate a rulemaking seeking to amend those standards, as specified in the MTE regulation.[5] However, no factual evidence came to light in the public comments or otherwise that leads the Administrator to a different conclusion than the one set forth in the Proposed Determination. The Administrator is thus making this Final Determination that the standards remain appropriate, and that no further action under the Midterm Evaluation is necessary. Thus the standards remain unchanged and the regulatory status quo is unaltered. See also 76 FR 48763 (Aug. 9, 2011) ("[t]he MY2022-2025 GHG standards will remain in effect unless and until EPA changes them by rulemaking").

EPA's updated analyses presented in the Proposed Determination built upon and were directly responsive to public comments on the Draft TAR. The Administrator has fully considered public comments submitted in response to the Proposed Determination, and EPA has responded to comments in the accompanying Response to Comments (RTC) document. The Administrator believes that there has been no information presented in the public comments on the Proposed Determination that materially changes the Agency's analysis documented in the Proposed Determination. Therefore, the Administrator considers the analyses presented in the Proposed Determination[6] as the final EPA analyses upon which her Final Determination is based.

The Administrator notes that, in response to EPA's solicitation of comment on the topic, several commenters spoke to the need for additional incentives or flexibilities in the out years of the program including incentives that could continue to help promote the market for very advanced technologies, such as electric vehicles. She notes that her determination, based on the record before her, is that the MY2022-2025 standards currently in effect are feasible (evaluated against the criteria established in the 2012 rule) and appropriate under section 202, and do not need to be revised. This conclusion, however, neither precludes nor prejudices the possibility of a future rulemaking to provide additional incentives for very clean technologies or flexibilities that could assist manufacturers with longer term planning without compromising the effectiveness of the current program. The EPA is always open to further dialogue with the manufacturers, NHTSA, CARB and other stakeholders to explore and consider the suggestions made to date and any other ideas that could enhance firms' incentives to move forward with and to help promote the market for very advanced technologies, such as electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell vehicles (FCEVs).

The basis for the Administrator's assessment supporting her decision that the MY2022-2025 standards are appropriate is summarized below.

The Standards Are Feasible at Reasonable Cost, Without Need for Extensive Electrification. As part of our technical assessment of the technologies available to meet the MY2022-2025 GHG standards, we present a range of feasible, cost-effective compliance pathways to meet the

[5] 40 CFR 86.1818-12(h) (final sentence).

[6] Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation, EPA-420-R-16-020, and accompanying Technical Support Document, EPA-420-R-16-021, November 2016.

MY2022-2025 standards. This analysis demonstrates that compliance can be achieved through a number of different technology pathways reflecting predominantly the application of technologies already in commercial production. The EPA also considered further developments in technologies where there is reliable evidence that those technologies could be feasibly deployed by 2025. The standards are in fact devised so as not to force manufacturers into a single compliance path, and the analysis showing multiple compliance pathways indicates that the standards provide each manufacturer with the flexibility to apply technologies in the way it views best to meet the needs of its customers. Moreover, given the rapid pace of automotive industry innovation, we believe there are, and will continue to be, emerging technologies that will be available in the MY2022-2025 time frame that could perform appreciably better at potentially lower cost than the technologies modeled in EPA's assessment. We have already seen this type of innovative development since the MY2017-2025 GHG standards were originally promulgated in 2012, including expanded use of continuously variable transmissions and introduction of higher expansion ratio, naturally aspirated gasoline engines (Atkinson). Updated information also shows that some of the technologies we did anticipate in 2012 are costing less, and are more effective, than we anticipated at that time.

EPA further projects that the MY2022-2025 standards can be met largely through advances in gasoline vehicle technologies, such as improvements in engines, transmissions, light-weighting, aerodynamics, and accessories, and, as noted, that there are multiple available compliance pathways based on the predominant use of these technologies. This analysis is consistent with both agencies' findings in the 2012 final rulemaking (FRM). Table ES-1 shows fleet-wide penetration rates for a subset of the technologies EPA projects could be used to comply with the MY2025 standards. The analyses further indicate that very low levels of strong hybrids and electric vehicles (both plug-in hybrid electric vehicles (PHEV) and electric vehicles (EV)) will be needed to meet the standards. EPA analyzed a central case low-cost pathway as well as multiple sensitivity cases, all of which show that compliance can be achieved through a number of different technology pathways without extensive use of strong hybrid or electric vehicles. These sensitivity cases include various fuel price scenarios, cost markups, and technology penetrations (e.g., lower Atkinson penetration, lower mass reduction, alternative transmissions). See Table ES-1, presenting the sensitivity cases as a range of technology penetrations and per-vehicle costs. These costs are lower than those projected in the 2012 rule; at that time, the EPA projected that average per-vehicle costs, although reasonable, would be about $1,100.[7]

Table ES-1 Selected Technology Penetrations (Absolute) and Per-Vehicle Average Costs (2015$) to Meet MY2025 GHG Standards (Incremental to the Costs to Meet the MY2021 Standards) [1]

	Final Determination	
	Primary Analysis	Range of Sensitivities Analyzed
Turbocharged and downsized gasoline engines (%)	34%	31 - 41%
Higher expansion ratio, naturally aspirated gasoline engines (%)	27%	5 - 41%
8 speed and other advanced transmissions[2] (%)	93%	92 - 94%
Mass reduction (%)	9%	2 - 10%

[7] 77 FR 62853, October 15, 2012; Draft Technical Assessment Report, Table 12.44.

Off-cycle technology[3]	26%	13 - 51%
Stop-start (%)	15%	12 - 39%
Mild Hybrid (%)	18%	16 - 27%
Strong Hybrid (%)	2%	2 - 3%
Plug-in hybrid electric vehicle[4] (%)	2%	2%
Electric vehicle[4] (%)	3%	2 - 4%
Per vehicle cost (2015$)	**$875**	**$800 - $1,115**

Notes:
[1] Percentages shown are absolute rather than incremental. Values based on AEO 2016 reference case.
[2] Including continuously variable transmissions (CVT).
[3] In addition to modeling the off-cycle credits of stop-start and active aerodynamics, EPA also assessed additional off-cycle technologies as unique technologies that can be applied to a vehicle and that reduce CO_2 emissions by either 1.5 g/mi or 3 g/mi. See Proposed Determination Appendix C.1.1.1.3,
[4] Electric vehicle penetrations include the California Zero Emission Vehicle (ZEV) program.

The Standards Will Achieve Significant CO_2 and Oil Reductions. Based on various assumptions, including the U.S. Department of Energy's Annual Energy Outlook (AEO) 2016 reference case projections of the car/truck mix out to 2025, the footprint-based GHG standards curves for MY2022-2025 are projected to achieve an industry-wide fleet average carbon dioxide (CO_2) target of 173 grams/mile (g/mi) in MY2025 (Table ES-2). The projected fleet average CO_2 target represents a 2-cycle GHG emissions compliance level equivalent to 51.4 mpg-e (if all reductions were achieved exclusively through fuel economy improvements).[8] EPA projects that this GHG compliance level of 51.4 mpg-e could be met by automakers with average real world/label fuel economy of about 36 mpg. Given that the MY2016 real world fleet average fuel economy is about 26 mpg, this means that the fleet must improve real world fuel economy by about 10 mpg over the 9-year period from 2016 to 2025, or about one mpg per year.[9]

As a sensitivity, Table ES-2 also includes target projections based on two AEO 2016 scenarios in addition to the AEO 2016 reference case: a low fuel price case and a high fuel price case. Under the footprint-based standards, the program is designed to ensure significant GHG reductions across the fleet, and each automaker's standard automatically adjusts based on the mix (size and volume) of vehicles it produces each model year. Thus, as shown in Table ES-2, different fuel price cases translate into different projections for the car/truck fleet mix (e.g., with a higher truck share shown in the low fuel price case, and a lower truck share shown in the high fuel price case), which in turn leads to varying projections for the CO_2 targets and MPG-e levels projected for MY2025. These estimated CO_2 target levels reflect changes in the latest projections about the MY2025 fleet mix compared to the projections in 2012 when the standards were first established.

In our analysis for this Final Determination, we are applying the same footprint-based curves to the updated fleet projections for MY2025. It is important to keep in mind that the updated

[8] The projected MY2025 target of 173 g/mi represents an approximate 50 percent decrease in GHG emissions relative to the fuel economy standards that were in place in 2010. It is clear from current GHG manufacturer performance data that many automakers are earning air conditioner refrigerant GHG credits that reduce GHG emissions, but do not improve fuel economy. Accordingly, the projected MY2025 target of 173 g/mi represents slightly less than a doubling of fuel economy relative to the standards that were in place in 2010.
[9] U.S. EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2016," November 2016, www.epa.gov/fuel-economy/trends-report.

MY2025 fleet wide projections reflected in this Final Determination are still projections-- based on the latest available information, which will likely continue to change with future projections -- and that the actual GHG emissions/fuel economy level achieved in MY2025 will not be determined until the manufacturers have completed their MY2025 production. Put another way, each manufacturer will not know what its individual standard is until MY2025, since that individual standard is determined by the type and number of vehicles the manufacturer chooses to produce.

Table ES-2 Projections for MY2025: Car/Truck Mix, CO_2 Target Levels, and MPG-equivalent[1]

	2012 Final Rule	Final Determination		
	AEO 2011 Reference	**AEO 2016 Reference**	AEO 2016 Low	AEO 2016 High
Fuel Price in 2025 ($/gallon)[2]	$3.87	**$2.97**	$1.97	$4.94
Car/truck mix	67/33%	**53/47%**	44/56%	63/37%
CO_2 (g/mi)	163	**173**	178	167
MPG-e[3]	54.5	**51.4**	49.9	53.3

Notes:
[1] The CO_2 and MPG-e values shown here are 2-cycle compliance values. Projected real-world values are detailed in the Proposed Determination TSD Chapter 3; for example, AEO reference fuel price case, real-world CO_2 emissions performance would be 233 g/mi and real-world fuel economy would be about 36 mpg.
[2] AEO 2011 fuel price is 2010$ (equivalent to $4.21 in 2015$); AEO 2016 fuel prices are 2015$.
[3] Mile per gallon equivalent (MPG-e) is the corresponding fleet average fuel economy value if the entire fleet were to meet the CO_2 standard compliance level through tailpipe CO_2 improvements that also improve fuel economy. This is provided for illustrative purposes only, as we do not expect the GHG standards to be met only with fuel efficiency technology.

EPA estimates that over the vehicle lifetimes the MY2022-2025 standards will reduce GHG emissions by 540 million metric tons and reduce oil consumption by 1.2 billion barrels, as shown in Table ES-3.

Table ES-3 Cumulative GHG and Oil Reductions for Meeting the MY2022-2025 Standards (Vehicle Lifetime Reductions)

	Final Determination[1]
GHG reduction (million metric tons, MMT CO_2e)	540
Oil reduction (billion barrels)	1.2

Note:
[1] Values based on AEO 2016 reference case.

The Standards Will Provide Significant Benefits to Consumers and to the Public. The net benefits of the MY2022-2025 standards are nearly $100 billion (at 3 percent discount rate). Table ES-4 presents the societal monetized benefits associated with meeting the MY2022-2025 standards. The EPA also evaluated the benefit-costs of additional scenarios (AEO 2016 high and low fuel price scenarios). See Proposed Determination Section IV.A. In all cases, the net benefits far exceed the costs of the program. It is also notable that in all cases, the benefits (excluding fuel savings) and the fuel savings, each independently, exceed the costs. That is, the

benefits exceed the costs without considering any fuel savings, and likewise fuel savings exceed the costs even without considering any other benefits.

Table ES-4 GHG Analysis of Lifetime Costs & Benefits to Meet the MY2022-2025 GHG Standards (for Vehicles Produced in MY2021-2025)[1] (Billions of $)

	Final Determination[2]	
	3 Percent Discount Rate	7 Percent Discount Rate
Vehicle Program	-$33	-$24
Maintenance	-$3	-$2
Fuel	$92	$52
Benefits[1]	$42	$32
Net Benefits	$98	$59

Notes:
[1]All values are discounted back to 2016. See the Proposed Determination Appendix C for details on discounting social cost of GHG and non-GHG benefits, and for a discussion that the costs and benefits reflect some early compliance with the MY2025 standard in MY2021.
[2] Values based on AEO 2016 reference case and 2015$.

When considering the payback of an average MY2025 vehicle compared to a vehicle meeting the MY2021 standards, we believe one of the most meaningful analyses is to look at the payback for consumers who finance their vehicle, as the vast majority of consumers (nearly 86 percent) purchase new vehicles through financing. The average loan period is over 67 months. Consumers who finance their vehicle with a 5-year loan would see payback within the first year. Consumers who pay cash for their vehicle would see payback in the fifth year of ownership. Consumers would realize net savings of $1,650 over the lifetime of their new vehicle (i.e., net of increased lifetime costs and lifetime fuel savings). Even with the lowest fuel prices projected by AEO 2016 (see Proposed Determination Appendix C), approximately $2 per gallon in 2025, the lifetime fuel savings significantly outweigh the increased lifetime costs.

Table ES-5 Payback Period and Net Lifetime Consumer Savings for an Average MY2025 Vehicle Compared to the MY2021 GHG Standards

	Final Determination[1]
Payback period – 5-year loan purchase[2] (years)	<1
Payback period – Cash purchase (years)	5
Net Lifetime Consumer Savings ($, discounted at 3%)	$1,650

Notes:
[1] Values based on AEO 2016 reference case and 2015$
[2] Using an interest rate of 4.25 percent.

The Auto Industry is Thriving and Meeting the Standards More Quickly than Required. While the Final Determination focuses on the MY2022-2025 standards, we note that the auto industry, on average, has out-performed the first four years of the light-duty GHG standards (MY2012-2015). This has occurred concurrently with a period during which the industry successfully rebounded after a period of economic distress. The recently released GHG Manufacturer

Performance Report for the 2015 Model Year shows that the National Program is working even at low fuel prices and automakers are over-complying with the standards, notwithstanding that the MY2015 standard was the most stringent to date, and that the increase in stringency from the previous model year was also the most pronounced to date.[10] Further, concurrently with out-performing the GHG standards, sales have increased for seven straight years, for the first time in 100 years, to an all-time record high in 2016, reflecting positive consumer response to vehicles meeting the standards.

The Administrator's Final Determination is that the MY2022-2025 standards remain appropriate. In light of the pace of progress in reducing GHG emissions since the MY2022-2025 standards were adopted, the success of automakers in achieving the standards to date while vehicle sales are strong, the projected costs of the standards, the impact of the standards on reducing emissions and fuel costs for consumers, and the other factors identified in 40 CFR 86.1818-12(h), the Administrator concludes that the record does not support a conclusion that the MY2022-2025 standards should be revised to make them less stringent. The Administrator did consider whether it would be appropriate to propose to amend the standards to increase their stringency. In her view, the current record, including the current state of technology and the pace of technology development and implementation, could support a proposal, and potentially an ultimate decision, to adopt more stringent standards for MY2022-2025. However, she also recognizes that regulatory certainty and consequent stability is important, and that it is important not to disrupt the industry's long-term planning. Long lead time is needed to accommodate significant redesigns. The Administrator also believes a decision to maintain the current standards provides support to a timely NHTSA rulemaking to adopt MY2022-2025 standards, as well as to the California Air Resources Board to consider in its review of the California GHG vehicle standards for MY2022-2025 as part of its Advanced Clean Cars program,[11] and thus to a harmonized national program. The Administrator consequently has concluded that it is appropriate to provide the full measure of lead time for the MY2022-2025 standards, rather than adopting (or, more precisely, proposing to adopt) new, more stringent standards with a shorter lead time.

[10] "Greenhouse Gas Emission Standards for Light-duty Vehicles, Manufacturer Performance Report for the 2015 Model Year, November 2016, EPA-420-R-16-014.https://www.epa.gov/regulations-emissions-vehicles-and-engines/ghg-emission-standards-light-duty-vehicles-manufacturer.

[11] California adopted its own GHG standards for MY2017-2025 in 2012 prior to EPA and NHTSA finalizing the National Program. Through direction from its Board in 2012, CARB both adopted a "deemed to comply" provision allowing compliance with EPA's GHG standards in lieu of CARB's standards, and committed to participate in the Midterm Evaluation (https://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc_mtr.htm).

I. Introduction

A. Background on the Midterm Evaluation

The Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) have conducted two joint rulemakings to establish a coordinated National Program for federal greenhouse gas (GHG) emissions and corporate average fuel economy (CAFE) standards for light-duty vehicles. Light-duty vehicles, which include passenger cars, sport utility vehicles, crossover utility vehicles, minivans, and pickup trucks, make up about 60 percent of all U.S. transportation-related GHG emissions and fuel consumption.[12] The agencies finalized the first set of National Program standards covering model years (MYs) 2012-2016 in May 2010[13] and the second set of standards, covering MY2017-2025, in October 2012.[14] The National Program is one of the most significant federal actions ever taken to reduce domestic GHG emissions and improve automotive fuel economy, establishing standards that increase in stringency year-over-year from MY2012 through MY2025 and projected to reach a level that nearly doubles fuel economy and halves GHG emissions compared to MY2010.

Through the coordination of the National Program with the California Air Resources Board's GHG standards, automakers can build one single fleet of vehicles across the U.S. that satisfies all GHG/CAFE requirements, and consumers can continue to have a full range of vehicle choices that meet their needs.[15] In addition, the Canadian government has adopted standards aligned with the U.S. EPA GHG standards through MY2025, further facilitating manufacturers' ability to produce vehicles satisfying harmonized standards.[16] Most stakeholders strongly supported the National Program, including the auto industry, automotive suppliers, state and local governments, labor unions, NGOs, consumer groups, veterans groups, and others. In the agencies' 2012 final rules, the National Program was estimated to reduce carbon dioxide (CO_2) emissions by 6 billion metric tons and reduce oil consumption by 12 billion barrels over the lifetime of MY2012-2025 vehicles. The standards are projected to provide significant savings for consumers due to reduced fuel use and consequent reduced fuel expenditures.

The 2012 final rule established standards through MY2025 to provide substantial lead time and regulatory certainty to the industry. Recognizing the rule's long time frame, EPA's rule establishing GHG standards for MY2017-2025 light-duty vehicles included a requirement for the agency to conduct a Midterm Evaluation (MTE) of the MYs 2022-2025 GHG standards. Through the MTE, EPA must determine whether the GHG standards for MY2022-2025,

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[12] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014, EPA Publication number EPA 430-R-16-002, April 15, 2016. Overall transportation sources account for 26 percent of total U.S. GHG emissions.

[13] 75 FR 25324, May 7, 2010.

[14] 77 FR 62624, October 15, 2012.

[15] Subsequent to the adoption of California-specific GHG standards for MYs 2017-2025 and the adoption of the Federal standards for MY2017 and beyond, CARB adopted a "deemed to comply" provision in furtherance of a National Program whereby compliance with the federal GHG standards would be deemed to be compliance with California's GHG program.

[16] EPA has coordinated with Environment and Climate Change Canada (ECCC) and Transport Canada throughout the Midterm Evaluation, including collaborating on a number of technology research projects. See Draft Technical Assessment Report Chapter 2.2.3, p. 2-8.

established in 2012, are still appropriate, within the meaning of section 202(a)(1) of the Clean Air Act, in light of the record before the Administrator, given the latest available data and information. See 40 CFR 86.1818-12(h). The MTE regulations provide that if the Administrator were to make a determination that the standards are not appropriate, based upon consideration of the decision factors in the regulation and the factual record available to the Administrator at the time of the determination, then the EPA would initiate a rulemaking to amend the standards to make them either more or less stringent. See 40 CFR 86.1818-12(h) (final sentence). This regulatory provision to conduct a rulemaking is limited only to the situation where the Administrator makes a determination that the standards are not appropriate and should be changed, to be either more or less stringent, and not to the situation where the Administrator, as in the case of this Final Determination, determines that the standards are appropriate and should not be changed. See 77 FR 62784 (Oct. 15, 2012) (stating that if EPA concludes the standards are appropriate it will "announce that final decision and the basis for EPA's decision" and if the EPA decides the standards are not appropriate, it will "initiate a rulemaking to adopt standards that are appropriate under section 202(a)").

In the 2012 rulemaking, the EPA stated its intention that the MTE would entail "a holistic assessment of all of the factors considered in standards setting," and "the expected impact of those factors on manufacturers' ability to comply, without placing decisive weight on any particular factor or projection." See 77 FR 62784 (Oct. 15, 2012). Indeed, the analyses supporting this MTE have been as robust and comprehensive as that in the original setting of the MY2017-2025 standards, *Id.,* although the nature of the decision-making the EPA has undertaken based on those analyses is very different, as established by design of the MTE regulations. In the 2012 rule, the EPA was faced with establishing the MY2017-2025 standards, while in this Final Determination the EPA has evaluated those standards in light of developments to date in order to determine if the existing standards are appropriate. *Id*. In gathering data and information throughout the MTE process, the EPA has drawn from a wide range of sources, including vehicle certification data, research projects and vehicle testing programs initiated by the agencies, input from stakeholders, and information from technical conferences, published literature, studies published by various organizations, and the many public comments.

In July 2016, EPA, NHTSA, and CARB jointly issued for public comment a Draft Technical Assessment Report (TAR) examining a wide range of issues relevant to the MY2022-2025 standards.[17] For the EPA, the Draft TAR was the first formal step in the MTE process as required under EPA's regulations.[18] The Draft TAR was a technical report, not a decision document. It was an opportunity for all three agencies to share with the public their technical analyses relating to the appropriateness of the MY2022-2025 standards.

The EPA received over 200,000 public comments on the Draft TAR, including about 90 comments from organizations and the rest from individuals. The organization commenters included auto manufacturers and suppliers, environmental and other non-governmental organizations (NGOs), consumer groups, state and local governments and their associations, labor unions, fuels and energy providers, auto dealers, academics, national security experts,

[17] 81 FR 49217, July 27, 2016.
[18] See 40 CFR 86.1818-12(h)(2)(i).

veteran's groups, and others. These comments presented a range of views on whether the standards should be retained, or made more or less stringent, and, in some cases, provided additional factual information that EPA considered in updating its analyses in support of the Administrator's Proposed Determination. The EPA also considered the few additional comments received after the close of the comment period on the Draft TAR.[19]

On November 30, 2016, EPA Administrator issued a proposed adjudicatory determination[20] proposing to find that the MY2022-2025 standards remain appropriate under the Clean Air Act. Because the Administrator was proposing that there be no change to the MY2022-2025 standards currently in the regulations, in other words that there be no change in the standards' stringency, the Proposed Determination did not include a Notice of Proposed Rulemaking. See section 86.1818-12(h). In this Final Determination, the Administrator has once again considered public comments -- those received on the Proposed Determination. The EPA received more than 100,000 comments on the Proposed Determination, with about 60 comments from organizations and the rest from individuals. The EPA responds to the public comments in the accompanying Response to Comments (RTC) document.

The EPA regulations state that in making the required determination, the Administrator shall consider the information available on the factors relevant to setting greenhouse gas emission standards under section 202(a) of the Clean Air Act for model years 2022 through 2025, including but not limited to:

- The availability and effectiveness of technology, and the appropriate lead time for introduction of technology;
- The cost on the producers or purchasers of new motor vehicles or new motor vehicle engines;
- The feasibility and practicability of the standards;
- The impact of the standards on reduction of emissions, oil conservation, energy security, and fuel savings by consumers;
- The impact of the standards on the automobile industry;

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[19] After the close of the comment period on the Draft TAR, EPA received and docketed additional comments from Volkswagen, the Electric Drive Transportation Association, and the Alliance of Automobile Manufacturers (a non-technical comment), all of which the EPA considered in the Proposed Determination.

[20] As noted in the Proposed Determination, and discussed more fully in the Response to Comments, the determination is not a rulemaking. None of EPA's rules, the Administrative Procedures Act, or the Clean Air Act require that the determination be made by rulemaking. EPA is properly exercising its discretion to proceed by adjudication. The final determination evaluates the technical record and concludes that the current standards are appropriate. As with past mid-course evaluations of Title II rules, where the EPA evaluates standards and decides not to change them, it need not undertake, and is not undertaking, a rulemaking. For example, in the final rule for heavy-duty engine standards (66 FR 5063, January 18, 2001), EPA announced regular biennial reviews of the status of the key emission control technology. EPA subsequently issued those reviews in 2002 and 2004, without going through rulemaking. See EPA Report 420-R-02-016; EPA Report 420-R-04-004. Or for instance, in the final rule for the Nonroad Tier 3 standards (63 FR 56983, Oct 23, 1998), EPA committed to reviewing the feasibility of the standards by 2001 and to adjust them by rulemaking if necessary. In 2001, without engaging in rulemaking, the EPA published a report, see EPA Report 420-R-01-052, accepted comments, and concluded publicly that the standards remained technologically feasible. (Memorandum: "Comments On Nonroad Diesel Emissions Standards: Staff Technical Paper," from Chet France to Margo Oge, June 4, 2002)

- The impacts of the standards on automobile safety;
- The impact of the greenhouse gas emission standards on the Corporate Average Fuel Economy standards and a national harmonized program; and
- The impact of the standards on other relevant factors.[21]

The preamble to the 2012 final rule further listed ten relevant factors that the agencies will consider at a minimum during the MTE. The EPA in fact addressed all of these issues in the Draft TAR, and considered them further in the Proposed Determination and in this Final Determination.[22]

- Development of powertrain improvements to gasoline and diesel powered vehicles;
- Impacts on employment, including the auto sector;
- Availability and implementation of methods to reduce weight, including any impacts on safety;
- Actual and projected availability of public and private charging infrastructure for electric vehicles, and fueling infrastructure for alternative fueled vehicles;
- Costs, availability, and consumer acceptance of technologies to ensure compliance with the standards, such as vehicle batteries and power electronics, mass reduction, and anticipated trends in these costs;
- Payback periods for any incremental vehicle costs associated with meeting the standards;
- Costs for gasoline, diesel fuel, and alternative fuels;
- Total light-duty vehicle sales and projected fleet mix;
- Market penetration across the fleet of fuel efficient technologies;
- Any other factors that may be deemed relevant to the review.[23]

In the 2012 final rule, the agencies projected that the MY2025 standards would be met largely through advances in conventional vehicle technologies, including advances in gasoline engines (such as downsized/turbocharged engines) and transmissions, vehicle weight reduction, improvements in aerodynamics, more efficient accessories, and lower rolling resistance tires. The agencies also projected that vehicle air conditioning systems would continue to improve by becoming more efficient and by increasing the use of alternative refrigerants and lower leakage systems. The EPA estimated that some increased electrification of the fleet would occur through the expanded use of stop/start and mild hybrid technologies, but projected that the MY2025 standards could be met with only about five percent of the fleet being strong hybrid electric vehicles (HEVs) and only about two percent of the fleet to be electric vehicles (EV) or plug-in hybrid electric vehicles (PHEVs).[24] All of these technologies were available at the time of the

[21] 40 CFR 86.1818-12(h).
[22] 76 FR 48673 (Aug. 9, 2011) and 77 FR 62784, October 15, 2012.
[23] Among the other factors deemed relevant and addressed in the Draft TAR and Proposed Determination, EPA's analysis examined the potential impact of the California Zero Emission Vehicle (ZEV) program, which California has revised since the 2012 final rule. EPA also examined the availability and use of credits, including credits for emission reductions from air conditioning improvements and from off-cycle technologies.
[24] For comparison to vehicles for sale today, an example of a mild HEV is GM's eAssist (Buick Lacrosse), a strong HEV is the Toyota Prius, an EV is the Nissan Leaf, and a PHEV is the Chevrolet Volt.

2012 final rule, some on a limited number of vehicles while others were more widespread, and the agencies projected that manufacturers would be able to meet the standards through significant efficiency improvements in the technologies, as well as through increased usage of these and other technologies across the fleet.

Since the 2012 final rule, vehicle sales have been strong, hitting an all-time high of 17.5 million vehicles in 2015, gas prices have dropped significantly, and truck share of the fleet has increased. At the same time, auto manufacturers have over-complied with the GHG program for each of the first four years of the program (MY2012-2015), and the industry as a whole has built a substantial bank of credits from the initial years of the program.[25] Technologies that reduce GHG emissions are entering the market at rapid rates, including more efficient engines and transmissions, aerodynamics, light-weighting, improved accessories, low rolling resistance tires, improved air conditioning systems, and others. Manufacturers are also using certain technologies that the agencies did not consider in their evaluation in the 2012 rule, including non-hybrid Atkinson cycle gasoline engines and 48-volt mild hybrid systems. Other technologies are being utilized at greater rates than the agencies projected, such as continuously variable transmissions (CVTs). These additional technologies have resulted in projected compliance pathways which differ slightly from those in the 2012 final rule with respect to some of the specific technologies expected to be applied to meet the future standards. However, the conclusions of the 2012 Final Rule, the July 2016 Draft TAR, the November 2016 Proposed Determination, and this Final Determination are very similar: that advanced gasoline vehicles will be the predominant technologies that manufacturers can use to meet the MY2025 standards. This assessment is similar to the conclusion of a 2015 study by the National Academy of Sciences which also found that the 2025 standards could be achieved primarily with advanced gasoline vehicle technologies.[26] As discussed below, the standards are also projected to be achievable through multiple feasible technology pathways at reasonable cost -- less than projected in the 2012 rulemaking -- and with significant direct benefit to consumers in the form of net savings due to purchasing less fuel.

The Administrator notes that, in response to EPA's solicitation of comment on the topic, several commenters spoke to the need for additional incentives or flexibilities in the out years of the program including incentives that could continue to help promote the market for very advanced technologies, such as electric vehicles. She notes that her determination, based on the record before her, is that the MY2022-2025 standards currently in effect are feasible (evaluated against the criteria established in the 2012 rule) and appropriate under section 202, and do not need to be revised. This conclusion, however, neither precludes nor prejudices the possibility of a future rulemaking to provide additional incentives for very clean technologies or flexibilities that could assist manufacturers with longer term planning without compromising the effectiveness of the current program. The EPA is always open to further dialog with the manufacturers, NHTSA, CARB and other stakeholders to explore and consider the suggestions made to date and any other ideas that could enhance firms' incentives to move forward with and

[25] "Greenhouse Gas Emission Standards for Light-duty Vehicles, Manufacturer Performance Report for the 2015 Model Year, November 2016, EPA-420-R-16-014.

[26] "Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles," National Research Council of the National Academies, June 2015, Finding 2.1 (p. 2-83).

to help promote the market for very advanced technologies, such as electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell vehicles (FCEVs).

B. Background on the Light-duty Vehicle GHG Standards

The GHG emissions standards are attribute-based standards, based on vehicle footprint.[27] In other words, the standards are based on a vehicle's size: larger vehicles have numerically higher GHG emissions targets and smaller vehicles have numerically lower GHG emissions targets. Manufacturers are not compelled to build vehicles of any particular size or type, and each manufacturer has a unique fleetwide standard for each of its car and truck fleets that reflects the light-duty vehicles it chooses to produce in a given model year. Each automaker's standard automatically adjusts each year based on the vehicles (sizes and volumes) it produces. With fleetwide averaging, a manufacturer can produce some models that exceed their target, and some that are below their target. This approach also helps preserve consumer choice, as the standards do not constrain consumers' opportunity to purchase the size of vehicle with the performance, utility and safety features that meet their needs. In addition, manufacturers have available many other flexibility provisions, including banking and trading of credits across model years and trading credits across manufacturers.

The footprint curves for the MY2012-2025 GHG standards, illustrating the year-over-year stringency increases, are shown below in Figure I.1 and Figure I.2.[28]

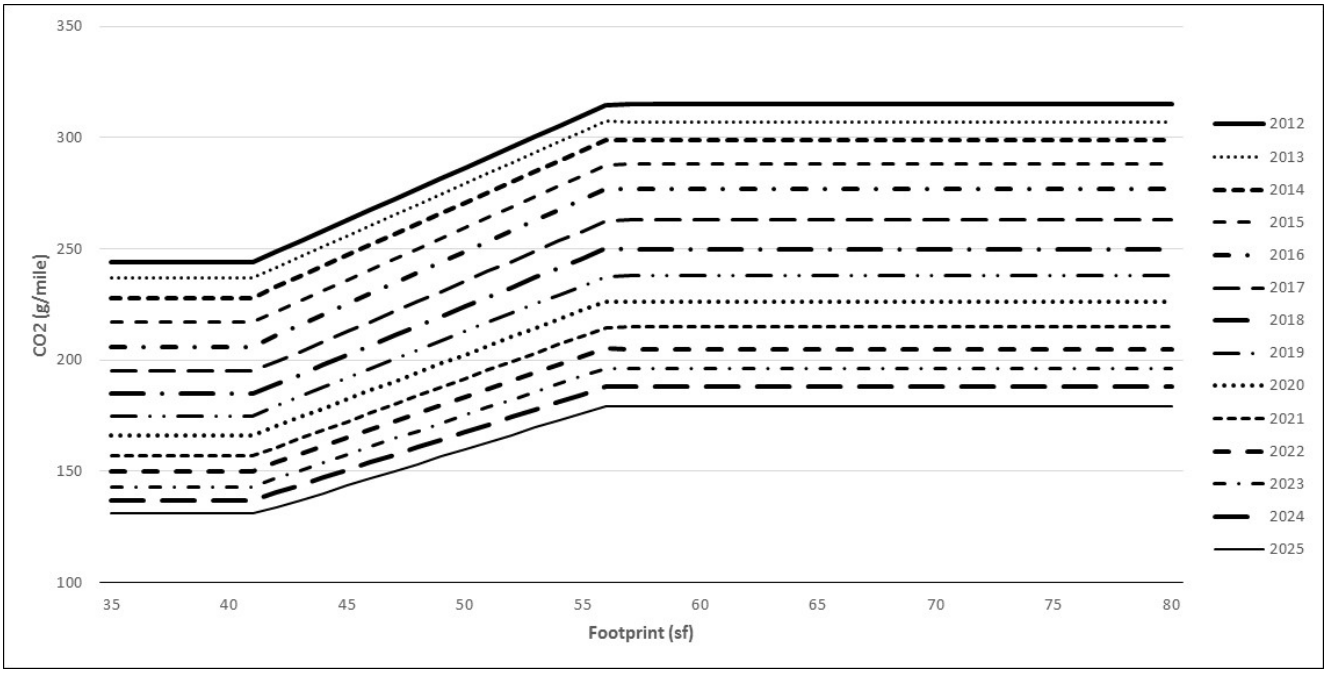

Figure I.1 CO_2 (g/mile) Passenger Car Standards Curves

[27] Footprint is defined as a vehicle's wheelbase multiplied by its average track width—in other words, the area enclosed by the points at which the wheels meet the ground.

[28] See 40 CFR 86.1818-12(c).

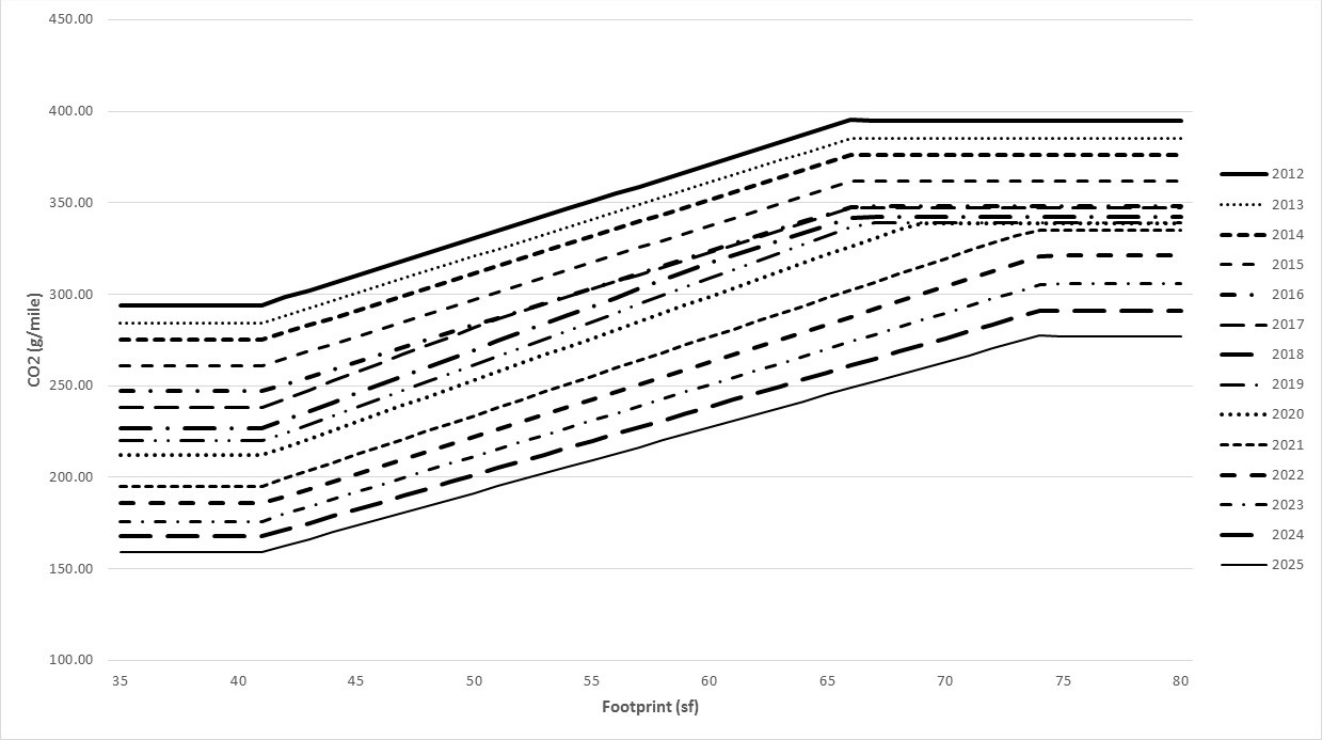

Figure I.2 CO_2 (g/mile) Light Truck Standards Curves

C. Climate Change Science

In the Proposed Determination, the EPA presented an overview of climate change science as laid out in the climate change assessments from the National Academies, the U.S. Global Change Research Program, and the Intergovernmental Panel on Climate Change. The EPA summarized the impacts to human health, to ecosystems, and to physical systems in the United States and around the world, from heat waves to sea level rise to disruptions of food security. Impacts to vulnerable populations such as children, older Americans, persons with disabilities, those with low incomes, indigenous peoples, and persons with preexisting or chronic conditions were also highlighted. The most recent assessments have confirmed and further expanded the science that supported the 2009 Endangerment and Cause or Contribute Findings for Greenhouse Gases Under section 202(a) of the Clean Air Act; Final Rule (74 FR 66496, December 15, 2009), as discussed in the more recent 2016 Finding That Greenhouse Gas Emissions from Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated to Endanger Public Health and Welfare (81 FR 54422, August 15, 2016). Furthermore, the climate system continues to change: in 2015, CO_2 concentrations grew by more than 2 parts per million, reaching an annual average of 401 ppm, sea level continued to rise at 3.3 mm/year since the satellite record started in 1993, Arctic sea ice continues to decline, and glaciers continue to melt.[29] 2016 was the

[29] Blunden, J. and D. S. Arndt, Eds., 2016: State of the Climate in 2015. Bull. Amer. Meteor. Soc., 97 (8), S1–S275, DOI:10.1175/2016BAMSStateoftheClimate.

warmest year in the global average surface temperature record going back to 1880, the third year in a row of record temperatures.

II. The Administrator's Assessment of Factors Relevant to the Appropriateness of the MY2022-2025 Standards

Through the Midterm Evaluation, the Administrator must determine whether the GHG standards for model years 2022-2025, established in 2012, are still appropriate, within the meaning of section 202(a)(1) of the Clean Air Act, given the latest available data and information in the record before the Administrator. [30] In this final order, the Administrator is making a final determination that the GHG standards currently in place for MYs 2022-2025 remain appropriate under the Clean Air Act. The consequence of this determination is that the standards remain unchanged, there is no alteration in the rules, and the regulatory status quo continues. The Administrator has fully considered public comments submitted on the Proposed Determination, and the EPA has responded to comments in the accompanying Response to Comments (RTC) document. The Administrator believes that there has been no information presented in the public comments on the Proposed Determination that materially changes the Agency's analysis documented in the Proposed Determination.[31] Therefore, the Administrator considers the analyses presented in the Proposed Determination as the final the EPA analyses upon which this Final Determination is based.

The EPA regulations[32] state that in making the required determination, the Administrator shall consider the information available on the factors relevant to setting greenhouse gas emission standards under section 202(a) of the Clean Air Act for model years 2022 through 2025, including but not limited to:

(i) The availability and effectiveness of technology, and the appropriate lead time for introduction of technology;
(ii) The cost on the producers or purchasers of new motor vehicles or new motor vehicle engines;
(iii) The feasibility and practicability of the standards;
(iv) The impact of the standards on reduction of emissions, oil conservation, energy security, and fuel savings by consumers;
(v) The impact of the standards on the automobile industry;
(vi) The impacts of the standards on automobile safety;
(vii) The impact of the greenhouse gas emission standards on the Corporate Average Fuel Economy standards and a national harmonized program; and
(viii) The impact of the standards on other relevant factors.[33]

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[30] See 40 CFR 86.1818-12(h).

[31] Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation, EPA-420-R-16-020, and accompanying Technical Support Document, EPA-420-R-16-021, November 2016. In adopting the midterm evaluation provisions, EPA indicated that it "expect[ed] to place primary reliance on peer-reviewed studies" and on "NAS reports" in making midterm evaluation determinations. 77 FR 62787. EPA has in fact done so. See Draft TAR Section 2.2.1 and 2.2.3.

[32] See 40 CFR 86.1818-12(h)(1)(i) through (viii).

[33] 40 CFR 86.1818-12(h)(1).

Below we discuss each of these factors in light of the analyses upon which this Final Determination is based.

(i) The availability and effectiveness of technology, and the appropriate lead time for introduction of technology; (ii) the cost on the producers or purchasers of new motor vehicles or new motor vehicle engines; (iii) the feasibility and practicability of the standards

Several of the factors relate to the technology assessment -- technology availability and effectiveness, lead time for introducing technologies, and the costs, feasibility and practicability of the standards. On the basis of EPA's extensive technical analyses contained in the Proposed Determination, and after consideration of the additional comments received by the agency, the Administrator finds that there will be multiple technologies available at reasonable cost to allow the industry to meet the MY2022-2025 standards, with the majority in commercial production today, and others under active development with reliable evidence of feasibility and availability in the market by 2025. See Proposed Determination Sections II and IV.A, and TSD Chapter 2. As in the 2012 FRM, The Administrator further finds that the MY2025 standards can be achieved with very low levels of strong hybrid or plug-in electrified vehicles. The EPA's extensive review of the literature, including but not limited to the 2015 NAS study, makes it clear that advanced gasoline vehicle technologies will continue to improve between now and 2025. In addition, the significant technology advances that have already occurred in just the four years since the 2012 final rule are a strong indication that technology will continue to advance, with clear potential for additional innovation over the next eight years.

The EPA projects a range of potential compliance pathways for each manufacturer and the industry as a whole to meet the MY2022-2025 standards (see Proposed Determination Table IV.5 and Appendix C which show a "central case" and eight sensitivity cases). This analysis indicates that the standards can be met largely through utilization of a suite of advanced gasoline vehicle technologies, with modest penetration of stop-start and mild hybrids and relatively low penetrations of strong hybrids, PHEVs and EVs. The 2015 National Academy of Sciences study on fuel economy technologies similarly found that the 2025 standards would be achieved largely through improvements to a range of technologies that can be applied to a gasoline vehicle without the use of strong hybrids, PHEV, or EV technology. It is important to underscore that EPA's projected technology penetrations are meant to illustrate one of many possible technology pathways to achieve compliance with the MY2022-2025 GHG standards. The rules do not mandate the use of any particular form of technology; the standards are performance-based and thus manufacturers are free to select among the suite of technologies they best believe is right for their vehicles to achieve compliance. As we have seen in recent years with the rapid advances in a wide range of GHG-reduction technologies, we expect that ongoing innovation will result in further improvements to existing technologies and the emergence of others.

As we note throughout this document, the EPA carefully considered and responded in detail to all of the significant public comments as part of the record for the Proposed Determination. Some industry commenters have expressed the view that the EPA did not in fact consider their technical comments. As described in the Proposed Determination and Chapter 2 of the TSD, a number of changes the EPA made to its analysis between the Draft TAR and the Proposed Determination were in response to those technical comments highlighted by the Alliance of Automobile Manufacturers and Global Automakers. These included updating the baseline fleet

to a MY2015 basis, better accounting for certain technologies in that baseline fleet, improving the vehicle classification structure to improve the resolution of cost-effectiveness estimates applied in the OMEGA model, updating effectiveness estimates for certain advanced transmission technologies, conducting additional sensitivity analyses (including those where certain advanced technologies are artificially constrained), and adding quality assurance checks of technology effectiveness into the ALPHA and Lumped Parameter Model. See Proposed Determination Appendix A at A-1 and A-2. EPA consulted with NHTSA and CARB as part of the process of developing the Proposed Determination. The Final Determination is based on an administrative record at the very least as robust as that for the 2012 FRM, including extensive state-of-the-art research projects conducted by EPA and consultants to both agencies, data and input from stakeholders, multiple rounds of public comment, information from technical conferences, published literature, and studies published by various organizations. EPA put primary emphasis on the many peer-reviewed studies, as well as on the National Academy of Sciences 2015 report on fuel economy technologies.

Auto industry commenters believe that EPA's analysis generally overestimates the effect of advanced gasoline technologies, that these technologies will not be sufficient to meet the standards, and that higher levels of electrified vehicles will be needed to meet the MY2022-2025 standards. The EPA has carefully considered these comments and our assessment is that the commenters are not considering the possibility of applying the full range of road load reduction and non-electrified powertrain technologies broadly across high volume models, and in the combinations, that the EPA assessed in the Proposed Determination and Draft TAR. In some cases, the auto industry comments, including the Alliance of Automobile Manufacturers (Alliance), are based on the premise that the only possible technologies available in MY2025 will be represented by technology already contained in the fleet today (more specifically, that contained in the Draft TAR's MY2014 baseline fleet), and that those technologies will not improve in efficiency. The EPA disagrees with this assertion; several recently released engines have already demonstrated efficiencies that exceed those in the MY2014 fleet.[34] These actual engines illustrate that improvement has continued beyond the assumed basis of the comments, and it is highly unlikely that even these recent developments represent the limit of achievable efficiencies in the future. EPA's assessment is consistent with the MY2015 NAS report, in which the committee wrote that in the context of increasingly stringent fuel economy and GHG emissions standards, "gasoline-fueled spark ignition (SI) engine will continue to be the dominant powertrain configuration even through 2030 (pg S-1)."[35] Setting aside the assumption that the best available technologies today will undergo no improvement in future years (a premise the auto industry has disproved time and again), the commenters do not even allow for the recombination of existing technologies, and thus severely and unduly limit potential effectiveness increases obtainable by MY2025. The EPA notes that events have already disproven this assumption; as one specific example, Ford introduced a 10-speed automatic transmission on the MY2017 F150 paired with a turbocharged downsized engine, which represents a technology combination that was not previously available and was therefore not

[34] These engines include the 1.5L Honda turbo, Volkswagen's EA888-3B Miller cycle, and Hyundai-Kia's 2.0L Atkinson cycle engine.

[35] The 2015 NAS report also included an example technology pathway which illustrated how the application of conventional, non-electrified technologies would enable the example midsize car to meet its MY2025 footprint target (pp 8-18, 8-19).

considered (and would be deemed impossible) by the Alliance comments. NGO commenters, on the other hand, believe that EPA's analysis is robust and that, if anything, EPA's assessment of technologies is overly conservative as we did not consider additional technologies expected to be in the market in the MY2022-2025 timeframe.

The EPA also has carefully considered comments and issues related to powertrain improvements, including advanced engine technologies and improvements to transmission technologies. See 76 FR 48763 and 77 FR 62784. A key technology the EPA assessed in the Draft TAR and Proposed Determination to be available at reasonable cost is the Atkinson Cycle engine in non-hybrid applications. The Atkinson Cycle architecture has already been demonstrated in production domestically (Mazda, Toyota, Hyundai-Kia), enhanced with cooled exhaust gas recirculation (Mazda), and in Europe further enhanced with cylinder deactivation (Volkswagen). These production examples are consistent with EPA engine modeling and initial hardware testing that shows synergies between the use of cooled exhaust gas recirculation and cylinder deactivation with Atkinson Cycle engines. See TSD Chapter 2.3.4.1.4. In addition, and as explained in TSD Chapter 2.3.4.1.8.3 and further below, the EPA conducted sensitivity analyses constraining penetration of Atkinson-cycle engines and found that there are other cost-effective compliance paths available which rely chiefly on engine technology alternatives, rather than on electrification. We did not receive information in the comments on the Proposed Determination that provided a basis for reaching a different conclusion. Among these alternative technology paths are increased penetration of gasoline direct injected, turbo-downsized engines (a chief technology in the agencies' 2012 FRM assessment). The EPA has carefully considered and addressed the comments questioning the effectiveness values the EPA estimated for this technology; the EPA continues to believe these estimates are well grounded. The EPA explained in detail why the engine configuration used in its effectiveness estimates is representative, why the friction reduction assumptions are sound based on the use of coatings and other materials and technologies throughout the engine's moving components, and why the production engines cited as alternatives in the comments are not representative of feasible effectiveness values in 2025 given that they lack various technologies that improve efficiency (including variable valve lift, external cooled exhaust gas recirculation, sequential turbocharging, and higher peak cylinder pressure capability). See TSD Chapter 2.3.4.1.9.1.

The EPA is projecting average per vehicle costs of $875 across the fleet (see Table ES-1 and Proposed Determination Table IV.5).[36] These costs are lower than those projected in the 2012 rule, which the EPA estimated at about $1,100 (see Table 12.44 of the Draft TAR). The EPA found in the 2012 rule that these (higher) costs were reasonable, even without considering the payback in the form of less fuel used, which more than offsets these costs. See 77 FR 62663-62665, 62880 and 62922. Consequently, the EPA regards these lower estimated per-vehicle costs to be reasonable. Furthermore, the projected reduced fuel expenditures more than offset the estimated increase in vehicle cost even with lower assumptions of fuel cost. EPA's analysis finds that consumers who finance their vehicle with a 5-year loan would see payback within the first year; consumers who pay cash for their vehicle would see payback in the fifth year of

[36] Across eight sensitivity cases, average per-vehicle costs ranged from $800-$1,115. See Proposed Determination Table IV.5.

ownership. Consumers would realize net savings of $1,650 over the lifetime of their new vehicle (i.e., net of increased lifetime costs and lifetime fuel savings).

This decrease in estimated per-vehicle cost is not surprising—technology to achieve environmental improvements has often proved to be less costly than EPA's initial estimates.[37] Captured in these cost estimates, we project significant increases in the use of advanced engine technologies, comprising more than 60 percent of the fleet across a range of engines including turbo-downsized 18 bar and 24 bar, naturally-aspirated Atkinson cycle, and Miller cycle engines. We also see significant increases of advanced transmission technology projected to be implemented on more than 90 percent of the fleet, which includes continuously variable transmissions (CVTs) and eight-speed automatic transmissions. Stop-start technology and mild hybrid electrification are projected to be used on 15 percent and 18 percent, respectively, of the fleet. Similar to the analysis in the 2012 FRM, the EPA is projecting very low levels of strong hybrids (2 percent) and EV/PHEVs (5 percent) as absolute levels in the fleet (in the central case analysis, see Table ES-1).[38]

The EPA has considered the feasibility of the standards under several different scenarios of future fuel prices and fleet mix, as well as other sensitivity cases (e.g., different assumptions about technologies or credit trading) (see Proposed Determination Section IV.A and Appendix C), which showed only very small variations in average per-vehicle cost or technology penetration mix. Thus, our conclusion that there are multiple ways the MY2022-2025 standards can be met with a wide range of technologies at reasonable cost, and predominantly with advanced engine technologies, holds across all these scenarios.

These technology pathway findings are similar to the types of technologies that EPA projected in establishing the standards in the 2012 rule, although the specific technologies within the advanced engine, advanced transmission, and mild hybrid categories have been updated from the 2012 rule to reflect the current state of technological development (hence the lower estimated per vehicle cost than in the 2012 rule). For example, additional engine technologies, such as the naturally aspirated Atkinson cycle and Miller cycle noted above, were not even considered by the agencies in the 2012 rule yet are in production vehicles today. Similarly, transmission technology has developed such that CVTs are now emerging as a more popular choice for manufacturers than the dual-clutch transmissions we had mainly considered in 2012.[39] Mild hybrid technology also has developed, with more sophisticated 48-volt systems now offering a more cost-effective option than the 110-volt systems we had considered in the 2012 rule. The fact that these technologies have developed and improved so rapidly in the past four years since the MY2022-2025 standards were established provides a strong indication that the pace of innovation is likely to continue. The EPA expects that this trend will continue, likely affording

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[37] U.S. EPA, National Center for Environmental Economics (2014). "Retrospective Study of the Costs of EPA Regulations: A Report of Four Case Studies." EPA 240-F-14-001, https://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0575.pdf/$file/EE-0575.pdf including its literature review, Chapter 1.1.

[38] Note that a portion of the five percent EV/PHEV penetration is attributed to the California Zero Emission Vehicle (ZEV) program which is included in our reference case. See TSD Section 1.2.1.1. The incremental penetration of EV/PHEVs needed to meet the EPA GHG standards is projected to be less than one percent. See Proposed Determination Appendix C.1.1.3.2, Tables C.19-C.22, p. A-136-137.

[39] 77 FR 62852-62883; October 15, 2012.

manufacturers even more technology options, and at potentially lower cost, than the Administrator was able to consider at this time for the Final Determination.

EPA's analysis indicates that the effectiveness of the technologies evaluated provides manufacturers with a feasible, reasonable mix of technologies that are predominantly in production today, though not always in combination. For example, a manufacturer may have moved to an advanced turbo-downsized engine design and applied aerodynamic improvements, but not yet applied more advanced transmission or applied further mass reduction opportunities. In addition, there are some straightforward improvements to these technologies that are anticipated and well-documented in the record. See, e.g., Proposed Determination TSD Chapters 2.2.3.4 through 2.2.3.11, and 2.2.7.2 through 2.2.7.5. Most of the automaker comments to the Proposed Determination regarding feasibility did not account for the possibility of using a broad slate of technologies in combination. A few manufacturers have shared with the EPA confidential business information illustrating technology walks (or "techwalks"), which show the cumulative effects of the application of various technologies applied to a given vehicle model. However, while the techwalks provided include some of the same advanced technologies considered by EPA, none of the techwalks include a fuller range of conventional technologies in the combinations described in the Proposed (and Final) Determination. Some are missing very reasonable vehicle technologies, some are missing very reasonable engine technologies, and some are missing very reasonable transmission technologies. Because the manufacturer example techwalks don't include all technologies in the appropriate combinations and in some cases don't include the appropriate credit values, the examples show a shortfall (as would be expected) of about 20-40 g/mi depending on the vehicle. This resulting gap between the EPA and manufacturer-supplied projections would be eliminated if a broader set of the available technologies described in the Final Determination were included in their analysis and appropriate credit values were used.

Moreover, the EPA believes there is ample lead time between now and MY2022-2025 for manufacturers to continue implementing additional technologies into their vehicle production such that the MY2022-2025 standards can be achieved.

In considering whether lead time for the MY2022-2025 standards is adequate, the EPA recognizes that these standards were first established in 2012, providing the auto manufacturers with up to 13 years of lead time for product planning to meet these standards. In the 2012 rule, the EPA concluded that, "EPA agrees that the long lead time in this rulemaking should provide additional certainty to manufacturers in their product planning. The EPA believes that there are several factors that have quickened the pace with which new technologies are being brought to market, and this will also facilitate regulatory compliance."[40] As noted, in setting the standards in 2012, the EPA was beginning to see that technologies were being brought to market at a quickened pace, and this trend has clearly continued over the past four years (see Proposed Determination Section II). The EPA's 2016 CO_2 and Fuel Economy Trends report provides even further evidence of the rapid pace at which manufacturers are bringing advanced technologies into the fleet. For example, GM, Honda and Hyundai have implemented advanced transmissions on 80-90 percent of their fleets within the past five years. Over that same period, GM and Ford have implemented turbocharged engines on 25 percent and 40 percent of their fleets,

[40] 77 FR 62880; October 15, 2012.

respectively. Given that the EPA projects that the fleet as a whole could reach the 2025 standards with penetrations of 27 percent turbo-downsized 18 bar engines, and 7 percent turbo-downsized 24 bar engines, these penetration rates are clearly achievable given the pace with which some manufacturers have already implemented similar technologies.[41] With respect to the issue of lead time for the Atkinson engine technology, many of the building blocks necessary to operate an engine in Atkinson mode are already present in the MY2016 fleet (including gasoline direct injection (GDI), increased valve phasing authority, higher compression ratios, and (in some instances) cooled exhaust gas recirculation (cEGR)). Some of the potential packaging obstacles mentioned in comments, such as exhaust manifold design, should not be an impediment because more conventional manifold designs (not requiring a revamping of vehicle architecture) are both available and demonstrated in non-hybrid Atkinson cycle applications. There thus should be sufficient lead time before MY2022 to adopt the technology, since it could be incorporated without needing to be part of a major vehicle redesign.

Indeed, technology adoption rates and the pace of innovation have accelerated even beyond what EPA expected when initially setting these standards, which will further aid in addressing any potential for lead time concerns. By the time manufacturers must meet the MY2025 standards, since the standards were set in 2012, they will have had up to 13 years of lead time for product planning and at least 2-3 product redesign cycles, and at present manufacturers still have 5 to 8 years of lead time until the MY2022-2025 standards, with at least 1-2 redesign cycles.[42]

The EPA has also evaluated the progress of the existing fleet in meeting standards in future model years. See the Proposed Determination TSD Appendix C. This assessment shows that more than 100 individual MY2016 vehicle versions, or about 17 percent of the fleet, already meet future footprint-based CO_2 targets for MY2020 with current powertrains and air conditioning improvements. These figures do not include off-cycle credits in assessing compliance. In light of the fact that manufacturers are reporting an average of 3 g/mi of off-cycle credits across the fleet for 2015, with some manufacturers reporting more than 4 g/mi off-cycle credits, the share of the MY2016 fleet that can already meet the MY2020 footprint-based CO_2 targets -- four years ahead of schedule-- is actually even higher.

Notably, the majority of these vehicles are gasoline powertrains, and the vehicles include nearly every vehicle type, including midsize cars, SUVs, and pickup trucks, and span nearly every major manufacturer. It is important to note that because of the fleetwide averaging structure of the standards, not all vehicles are required to be below their individual targets, and in fact EPA expects that manufacturers will be able to comply with the standards with roughly 50 percent of their production meeting or falling below the footprint based targets. This analysis is another indication that the fleet is on track to meet future standards, especially given the 5 to 8 years of lead time remaining to MY2022-2025.

Consequently, evaluating the factors the EPA is required to consider under 40 CFR 86.1818(h)(1) (i), (ii), and (iii) of the mid-term evaluation rules, based on the current record before the Administrator, there is available and effective technology to meet the MY2022-2025 standards, it is available at reasonable cost to the producers and purchasers of new motor

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[41] EPA 2016 CO_2 and Fuel Economy Trends Report, Figures 6.2, 6.3 and 6.5.

[42] Redesign cycles are summarized in the Proposed Determination Appendix A and are discussed in greater detail in the 2012 FRM final Joint Technical Support Document, EPA-420-R-12-901, at Chapter 3.5.1.

vehicles or new motor vehicle engines, there is adequate lead time to meet those standards, and the standards are thus feasible and practicable. Moreover, this most recent analysis remains consistent with the key conclusions reached in the 2012 FRM: there are multiple compliance paths based chiefly on deployment of advanced gasoline engine technologies with minimal needed penetration of strong hybrid or full electric vehicles, projected per vehicle costs are lower than in the 2012 FRM, and the cost of the lower emitting technology is fully paid back by the associated fuel savings.

(iv) The impact of the standards on reduction of emissions, oil conservation, energy security, and fuel savings by consumers

The EPA also has considered the impact of the standards on reduction of emissions, oil conservation, energy security, and fuel savings by consumers, again as required by the Midterm Evaluation rules. Light-duty vehicles are significant contributors to the U.S. GHG emissions inventory—responsible for 61 percent of U.S. transportation GHG emissions and 16 percent of total U.S. GHG emissions in 2014—and thus must be a critical part of any program to reduce U.S. GHG emissions. EPA projects that the MY2022-2025 standards will reduce GHG emissions annually by more than 230 million metric tons (MMT) by 2050, and nearly 540 MMT over the lifetime of MY2022-2025 vehicles. See Proposed Determination Section IV.A.4, Table IV.6, and Appendix C.2. These projected GHG reductions associated with the MY2022-2025 standards are significant compared to total light-duty vehicle GHG emissions of 1,100 MMT in 2014.[43] See Proposed Determination Section IV and Table IV.6.

These standards are projected to reduce oil consumption by 50 billion gallons and to save U.S. consumers nearly $92 billion in fuel cost over the lifetime of MY2022-2025 vehicles. See Proposed Determination Table IV.8 and IV.13, respectively. On average for a MY2025 vehicle (compared to a vehicle meeting the MY2021 standards), consumers will save more than $2,800 in total fuel costs over that vehicle's lifetime, with a net savings of $1,650 after taking into consideration the upfront increased vehicle costs. See Proposed Determination Table IV.12, 3 percent discount rate case. EPA considers a range of societal benefits of the standards, including the social costs of carbon and other GHGs, health benefits, energy security, the value of time saved for refueling, and others.

Benefits are projected to far outweigh the costs, with net benefits totaling nearly $100 billion over the lifetime of MY2022-2025 vehicles (3 percent discount rate). See Proposed Determination Section IV.A.6 and Table IV.13. As was the case when the EPA first established the MY2022-2025 standards in the 2012 rule, this analysis also supports a conclusion that the standards remain appropriate – and indeed will provide enormous benefits -- from the standpoint of impacts of the standards on emissions, oil conservation, energy security, and fuel savings.

(v) The impact of the standards on the automobile industry

EPA has assessed the impacts of the standards on the automobile industry. We have estimated the costs required to meet the MY2022-2025 standards at about $33 billion (see

[43] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014, EPA 430-R-16-002, April 15, 2016.

Proposed Determination Section IV.A and Table IV.13), with an average per-vehicle cost of about $875 (see Proposed Determination Section IV.A and Tables IV.4 and IV.5). These costs are less than those originally projected when the EPA first established these standards in the 2012 rule; at that time, we had projected an average per vehicle cost of approximately $1,100 (see Table 12.44 of the Draft TAR). The Administrator found those (higher) projected costs to be reasonable in the 2012 rule, and finds the lower projected costs shown in our current analysis continues to support the appropriateness of the standards.

In addition to costs, the EPA has assessed impacts on the auto industry in terms of potential impacts on vehicle sales. See Proposed Determination Section III and Appendix B and TSD Chapter 4. As part of these assessments, the EPA has evaluated a range of issues affecting consumers′ purchases of vehicles, which also addresses a portion of the factor, "the cost on the producers or purchasers of new motor vehicles or new motor vehicle engines" (emphasis added, 40 CFR 86.1818-12(h)(ii)). EPA's assessments indicate that, to date, there is little, if any, evidence that consumers have experienced adverse effects from the standards. Vehicle sales continue to be strong, with annual increases for seven straight years, through 2016, for the first time in 100 years, and record sales in 2016. These sales increases are likely due not to the standards, but rather to economic recovery from the 2008-2009 recession. Nevertheless, at the least, we find no evidence that the standards have impeded sales. We also have not found any evidence that the technologies used to meet the standards have imposed "hidden costs" in the form of adverse effects on other vehicle attributes. See Proposed Determination Appendix B.1.4 and B.1.5.2. Similarly, we have not identified significant effects on vehicle affordability to date. See Proposed Determination Appendix B.1.6. We recognize that the standards will have some impact on the price of new vehicles, but we do not believe that the standards have significantly reduced the availability of vehicle model choices for consumers at any particular price point, including the lowest price vehicle segment. Id. at Appendix B.1.6.1. Given the lead time provided since the 2012 rule for automakers to achieve the MY2022-25 standards, and the evidence to date of consumer acceptance of technologies being used to meet the standards, the EPA expects that any effects of the standards on the vehicle market will be small relative to market responses to broader macroeconomic conditions.

The main argument in the public comments on both the Draft TAR and the Proposed Determination that the standards will have an adverse impact on the industry is that the standards, although achievable, will require extensive electrification of the fleet to do so, and this will result in more expensive vehicles -- and an emerging technology -- which consumers will be reluctant to purchase. Our analysis, however, indicates that there are multiple compliance pathways which would need only minimal (less than 3 percent) of strong hybrids and electric vehicles, and that the great bulk of technologies used would be based on improvements to gasoline internal combustion engines. This is true not only in the agency's primary analysis, but also in a series of sensitivity analyses (assuming, among other things, significantly less use of the Atkinson engine technology, and a wide range of fuel prices). See Table ES-1 and the Proposed Determination Section IV.A.3 and Appendix C.1. This analysis is also consistent with findings of the 2015 NAS study (as well as each agency's findings in the 2012 FRM).[44] Consequently, the EPA does believe that the evidence supports the claim of the comments on this point.

[44] "Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles," National Research Council of the National Academies, June 2015.

The EPA also carefully considered the issue of whether there has been consumer acceptance of the new fuel efficiency technologies. As noted, industry sales are at a record high, with sales increasing for seven consecutive years for the first time since the 1920's. These sales trends provide no evidence of consumer reluctance to purchase the new technologies. Moreover, professional auto reviews found generally positive associations with the existence of the technologies. See Section B.1.5.1.2 of the Appendix to the Proposed Determination. The evidence to date thus supports consumer acceptance of the new technologies.

Another potential impact on the automobile industry that the EPA has assessed is the potential for impacts on employment. EPA's assessment projects job growth in the automotive manufacturing sector and automotive parts manufacturing sector due specifically to the need to increase expenditures for the vehicle technologies needed to meet the standards. We do not attempt to quantitatively estimate the total effects of the standards on the automobile industry, due to the significant uncertainties underlying any estimate of the impacts of the standards on vehicle sales. Nor do we quantitatively estimate the total effects on employment at the national level, because such effects depend heavily on the state of overall employment in the economy. We further note that, under conditions of full employment, any changes in employment levels in the regulated sector due to the standards are mostly expected to be offset by changes in employment in other sectors. See the Proposed Determination Appendix B.2. The Administrator finds that, while the standards are likely to have some effect on employment, this effect (whether positive or negative) is likely to be small enough that it will be unable to be distinguished from other factors affecting employment, especially macroeconomic conditions and their effect on vehicle sales.

The Administrator thus finds, based on the current record, that the standards will impose reasonable per vehicle costs (and less than those projected in the 2012 FRM), that there is no evidence of the standards having an adverse impact on vehicle sales or on other vehicle attributes, or on employment in the automotive industry sector. Given these assessments of potential impacts on costs to the auto industry and average per-vehicle costs, consumers' purchases of vehicles, and employment, the Administrator finds that the potential impacts on the automobile industry support a conclusion that the MY2022-2205 standards remain appropriate and should not be changed.

(vi) The impacts of the standards on automobile safety

The EPA has assessed the potential impacts of the standards on automobile safety. In the Proposed Determination, consistent with the Draft TAR's safety assessment, the EPA assessed the potential of the MY2022-2025 standards to affect vehicle safety. In the Draft TAR (Chapter 8), the agencies reviewed the relationships between mass, size, and fatality risk based on the statistical analysis of historical crash data, which included a new analysis performed by using the most recent available crash data. The EPA used this updated analysis[45] in the Proposed Determination to calculate the estimated safety impacts of the modeled mass reductions over the lifetimes of new vehicles in response to MY2022-2025 standards. See the Proposed

[45] Puckett, S.M. and Kindelberger, J.C. (2016, June). Relationships between Fatality Risk, Mass, and Footprint in Model Year 2003-2010 Passenger Cars and LTVs – Preliminary Report. Washington, DC: National Highway Traffic Safety Administration.

Determination Section III.C.1 and Appendix B.3.1. EPA's analysis finds that the fleet can achieve modest levels of mass reduction as one technology among many to meet the MY2022-2025 standards without any net increase in fatalities. The 2015 NAS study further found that the footprint-based standards are likely to have little effect on vehicle and overall highway safety.[46] Therefore, the Administrator finds that the existing MY2022-2025 standards will have no adverse impact on automobile safety. There is no evidence in the public comments that suggests a different conclusion.

(vii) The impact of the greenhouse gas emission standards on the corporate average fuel economy standards and a national harmonized program

The EPA has assessed the impacts of the standards on the CAFE standards and a national harmonized program. EPA notes that NHTSA has established augural standards for MY2022-2025 and must by statute undertake a *de novo* notice and comment rulemaking to establish final standards for these model years. Under the Energy Policy and Conservation Act (EPCA) statute, as amended by the Energy Independence and Security Act (EISA), NHTSA must establish final standards at least 18 months before the beginning of each model year.[47] That statute requires the Secretary of Transportation to consult with the EPA Administrator in establishing fuel economy standards.[48] The EPCA/EISA statute includes a number of factors that NHTSA must consider in deciding maximum feasible average fuel economy, including "the effect of other motor vehicle standards of the Government on fuel economy."[49] Thus, in determining the CAFE standards for MY2022-2025, NHTSA can take into consideration the light-duty GHG standards, and indeed did so in initially establishing the MY2017-2021 CAFE standards and the augural MY2022-2025 standards. See 77 FR 62669, 62720, 62803-804. The EPA believes that by providing information on our evaluation of the current record and our determination that the existing GHG standards for MY2022-2025 are appropriate, we are enabling, to the greatest degree possible, NHTSA to take this analysis and the GHG standards into account in considering the appropriate CAFE standards for MY2022-2025.

The EPA recognizes that in 2012, when we discussed the mid-term evaluation, we expressed an intent that if EPA's determination was that the standards should not change, the EPA would issue its final determination concurrently with NHTSA's final rule adopting fuel economy standards for MY2022-2025. See 77 FR at 62633. Our intent was to align the agencies' proceedings for MYs 2022-2025 and to maintain a joint national program. *Id.* The EPA remains committed to a joint national program that aligns, as much as possible, the requirements of EPA, NHTSA, and CARB. The Administrator concludes, however, that providing her determination that the GHG standards remain appropriate now, rather than waiting until after NHTSA has proposed standards, allows NHTSA to fully account for the GHG standards and is more likely to align the agencies' determinations. Thus, the Administrator finds that her determination takes

[46] "Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles," National Research Council of the National Academies, June 2015, Finding 10.2.
[47] 42 U.S.C. 32902(a).
[48] 42 U.S.C. 32902(b)(1).
[49] 42 U.S.C. 32902(f).

account of the relationship between GHG standards and fuel economy standards and supports the goal of a national harmonized program.[50]

In an action separate from this Final Determination, the EPA will be responding to a petition received from the auto industry trade associations, the Alliance of Automobile Manufacturers and Global Automakers, regarding several provisions that they request be harmonized between the EPA GHG standards and the NHTSA CAFE standards.[51] On December 21, 2016, NHTSA signed a Federal Register notice signaling its plan to consider the NHTSA-specific requests from the auto industry petition. The EPA likewise intends, in the near future, to continue working together with NHTSA, the Petitioners and other stakeholders, as we carefully consider the requests made in the June 2016 petition, and possible ways to further harmonize the national program.

(*viii) The impact of the standards on other relevant factors*

In addition to the above factors, the Administrator has also considered the factor of regulatory certainty -- which relates closely to the issue of lead time discussed above. Regulatory certainty gives the automakers the time they need to conduct long-term planning and engineering to meet future standards. Indeed, the 2012 standards covered a long period of time – 13 years—in order to provide the industry with a lengthy period of stability and certainty. Thus, the Midterm Evaluation called for rule changes only if the Administrator found the existing standards to be no longer feasible and appropriate. Clearly, as discussed above, the automakers' response to technology development and deployment in the face of the regulatory certainty provided by the MY2012-2021 standards, which are not subject to the midterm evaluation, has exceeded EPA's projections set out in the original 2012 rule. Having the same certainty on the level of the MY2022-2025 standards can now enable manufacturers to continue unimpeded their existing long-term product planning and technology development efforts, which, in turn, could lead to even further, and perhaps sooner, breakthroughs in technology. These efforts could contribute to the continued success of the industry and the GHG standards program, which in turn would benefit consumers through fuel savings and the public through reduced emissions. Initiating a rulemaking now to change the standards would disrupt the industry's planning for future product lines and investments. Thus, the Administrator finds that regulatory certainty is an important consideration in assessing the appropriateness of the standards.

III. Final Determination

Having considered available information on each of the above factors required by the regulations, under 40 CFR 86.1818-12(h)(1), the Administrator is determining that the GHG

[50] The MTE rules themselves do not require concurrent timing with any aspect of NHTSA's rulemaking. Moreover, there is uncertainty as to whether the NHTSA rulemaking would be complete by the date on which EPA is mandated to make a final determination, so that the expressed hope (in the 2012 preamble) of concurrent proceedings may be overtaken by events in any case.

[51] "Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program," submitted by the Alliance of Automobile Manufacturers and the Association of Global Automakers to EPA and NHTSA, June 20, 2016.

standards currently in place for MYs 2022-2025 are appropriate under section 202(a)(1) and (2) of the Clean Air Act. The Administrator has fully considered public comments submitted on the Proposed Determination, and there has been no information provided through the comments that compels or persuades the Administrator to alter her Proposed Determination. The consequence of this final determination is a continuation of the current regulatory status quo. The regulations themselves are unaltered as a result of this determination.

In the Administrator's view, the record clearly establishes that, in light of technologies available today and improvements we project will occur between now and MY2022-2025, it will be practical and feasible for automakers to meet the MY2022-2025 standards at reasonable cost that will achieve the significant GHG emissions reduction goals of the program, while delivering significant reductions in oil consumption and associated fuel savings for consumers, significant benefits to public health and welfare, and without having material adverse impact on the industry, safety, or consumers. The Administrator recognizes that not all of the technologies available today have been implemented in a widespread manner, but she also recognizes that the purpose of the Midterm Evaluation is to assess whether the standards remain appropriate in light of the pace of compliance and technological development in the industry. As discussed above, the technological development of advanced gasoline vehicle technologies has surpassed EPA's expectations when we initially adopted the standards. Although we anticipated in 2012 that the standards could be met primarily using advanced gasoline engine and transmission technologies, the range of technology development has been more extensive and effective than anticipated. The industry's vibrancy, initiative, and ingenuity is to be commended. The Administrator concludes that the MY2022-2025 standards could be largely met simply by implementation of these technologies, but we recognize that we are at the mid-point of these standards phasing-in and it would be unreasonable, in light of past developments, ongoing investment by the industry, and EPA's extensive review of the literature on future technologies and improvements to existing technologies, to expect that no further technology development would occur that could be implemented for MY2022-2025 vehicles. In the Draft TAR and Proposed Determination, the EPA was not even able to consider all of the technologies being developed because of the rapid pace of development. As discussed in the Proposed Determination (see Section II and Appendix B), the EPA did not consider several technologies that we know are under active development and may potentially provide additional cost-effective technology pathway options for meeting the MY2025 standards; examples of such technologies include electric boosting, dynamic cylinder deactivation, and variable compression ratio. A significant difference between the industry analysis and that of the EPA is over the extent to which electric vehicle production will be needed to meet the standards. Many of industry's comments regarding cost, consumer acceptance, and other factors primarily stem from their view that significant EV penetration will be required. As discussed earlier, the Administrator has considered the report of the National Academy of Sciences and information and data from the auto industry, and she has determined based on the technical record before her that the industry's conclusions do not take into account the possibility of applying the full range of road load reduction and non-electrified powertrain technologies broadly across high volume models, and in the combinations, that the EPA assessed in the Proposed Determination and Draft TAR. In addition, the automotive industry has been characterized throughout its history by continued innovation and adoption of ever-improving technologies to improve fuel economy and lower emissions while simultaneously providing a range of vehicles to customers with the features they desire (safety, driveability, etc.). Thus, in

light of the pace of progress in reducing GHG emissions since the MY2022-2025 standards were adopted, the success of automakers in achieving the standards to date while vehicle sales are strong, the projected costs of the standards, the impact of the standards on reducing emissions and fuel costs for consumers, and the other factors identified in 40 CFR 86.1818-12(h) and discussed above, the Administrator concludes that the record does not support a conclusion that the MY2022-2025 standards should be revised to make them less stringent.

The Administrator has also considered whether, in light of these factors and the record (including public comments urging more stringent standards), it would be appropriate to make the standards more stringent. She recognizes that the current record, including the current state of technology and the pace of technology development and implementation, could support a decision to adopt more stringent standards for MY2022-2025 (or, put more precisely, could support a decision to initiate rulemaking proposing to amend the standards to increase their stringency). The EPA found in 2012 that the projected standards were feasible at reasonable cost, and the current record shows that the standards are feasible at even less cost and that there are more available technologies (particularly advanced gasoline technologies) than projected in 2012, and that the benefits outweigh the costs by nearly $100 billion. These factors could be the basis for a proposal to amend the standards to increase the standards' stringency. Moreover, one could point to the overall need to significantly reduce greenhouse gases in the transportation sector even further, especially given expected growth in vehicle travel. The Administrator also recognizes, however, that regulatory certainty is an important and critical consideration. Regulatory certainty gives the automakers the time they need to conduct long-term planning and engineering that could lead to major advancements in technology while contributing to the continued success of the industry and the GHG standards program, which in turn will benefit consumers and reduce emissions. She also believes a decision to maintain the current standards provides support to a timely NHTSA rulemaking to adopt MY2022-2025 standards and a harmonized national program. Thus, the Administrator has concluded that it is appropriate to provide the full measure of lead time for the MY2022-2025 standards, rather than initiating rulemaking to adopt new, more stringent standards with a shorter lead time and significant uncertainty in the interim which would impede on-going technological improvements and innovation.

Accordingly, the Administrator concludes that in light of all the prescribed factors, and considering the entire record, the current MY2022-2025 standards are appropriate.

THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JAN 12 2017

Dear Stakeholders:

I have determined that the model year (MY) 2022-2025 light-duty vehicle greenhouse gas (GHG) standards adopted in the 2012 final rule establishing the MY2017-2025 standards (77 FR 62624, October 15, 2012) are appropriate under section 202 (a)(1) of the Clean Air Act. This adjudicatory Final Determination concludes the Midterm Evaluation of standards required under 40 CFR 86.1818-12(h) of the Environmental Protection Agency (EPA) regulations.

This Final Determination follows the November 2016 release of the EPA's Proposed Determination and the July 2016 release of a Draft Technical Assessment Report (TAR), issued jointly by the EPA, the National Highway Traffic Safety Administration (NHTSA), and the California Air Resources Board (CARB). Opportunities for public comment were provided for both the Draft TAR and the Proposed Determination. In the Draft TAR, the agencies examined a wide range of issues relevant to GHG emissions standards for MY2022-2025, and shared with the public their initial technical analyses of those issues. The Draft TAR was required by the EPA's regulations as the first step in the Midterm Evaluation process. In developing the Proposed Determination, the EPA considered public comments on the Draft TAR and updated its analyses where appropriate in response to comments and to reflect the latest available data. The EPA has likewise considered public input on the Proposed Determination in developing this Final Determination.

As described in more detail in the enclosed rationale, I have determined that the standards adopted in 2012 by the EPA remain feasible, practical and appropriate under section 202(a) and do not need to be revised, after considering the factors laid out in the 2012 rule. I strongly believe that issuing this Final Determination at this time, in light of the robust technical record that supports it, is in the best interests of the auto industry, the One National Program to which the EPA, NHTSA and CARB committed in 2012, and public health and welfare. The success of the industry to date in achieving seven years of record sales while producing a large variety of vehicles that meet or exceed the standards reflects the fact that the development and deployment of advanced technology conventional gasoline engines has happened consistent with a robust vehicle market, more rapidly than we predicted, and at costs that are comparable or slightly lower than we predicted. I have considered carefully all the information submitted to the EPA from all stakeholders on the Proposed Determination, as well as on the Draft TAR, and I am confident that the standards as they currently exist can be met at a reasonable cost.

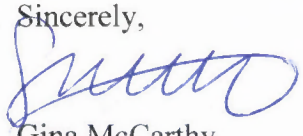
I note that in response to the EPA's solicitation of comment on the topic, several commenters spoke to the need for additional incentives or flexibilities in the out years of the program including incentives that could continue to help promote the market for very advanced technologies, such as electric vehicles. My determination, based on the record before me, is that the 2022-2025 standards currently in effect are feasible (evaluated against the criteria established in the 2012 rule) and appropriate under section 202, and do not need to be revised. This conclusion, however, neither precludes nor prejudices the possibility of a future rulemaking to provide additional incentives for very clean technologies or flexibilities that

could assist manufacturers with longer term planning without compromising the effectiveness of the current program. The EPA is always open to further dialogue with the manufacturers, NHTSA, CARB and other stakeholders to explore and consider the suggestions made to date and any other ideas that could enhance firms' incentives to move forward with and to help promote the market for very advanced technologies, such as electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell vehicles (FCEVs).

Materials related to the Final Determination and Midterm Evaluation are available in docket EPA-HQ-OAR-2015-0827 and at https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-ghg-emissions.

We thank you for your interest in this issue.

Sincerely,



Gina McCarthy

Enclosure

NESCAUM
www.nescaum.org

Northeast States for Coordinated Air Use Management
89 South Street, Suite 602 Boston, MA 02111
Phone 617-259-2000 Fax 617-742-9162
Arthur N. Marin, Executive Director

March 24, 2017

Mary Nichols
Chairman
California Air Resources Board
1001 "I" St
Sacramento, CA 95691
Attention: accmidterm2017

Re: *Advanced Clean Cars Program: Midterm Review*

Dear Chairman Nichols:

The Northeast States for Coordinated Air Use Management (NESCAUM) offers the following comments on the "Advanced Clean Cars Midterm Review Report" (Report), released by California Air Resources Board (ARB) on January 18, 2017[1]. NESCAUM is the regional association of air pollution control agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.[2]

NESCAUM thanks and commends California Air Resources Board (ARB) staff for its thorough and diligent review of the current 2022-2025 light duty vehicle particulate matter, greenhouse gas (GHG), and zero emission vehicle (ZEV) standards. The NESCAUM states have been implementing ARB's clean-car rules, as allowed under Section 177 of the Clean Air Act, for more than two decades as part of a coordinated effort to reduce air pollution in the region. For the reasons discussed below, the NESCAUM states concur with the Report and strongly support its findings to maintain these standards through 2025.

2022-2025 GHG Emission Standards

Staff's review of the 2022-2025 GHG emission standards is rooted in the findings of the comprehensive Draft Technical Assessment Report (TAR)[3] that was jointly released in July 2016 by ARB, the US Environmental Protection Agency (EPA), and the National Highway Transportation Safety Agency (NHTSA). That report evaluated a broad range of vehicle technologies currently available to improve fuel efficiency and reduce GHG emissions over time, and found that the GHG and fuel economy standards set in 2012 for model years 2022-2025 are likely to be achievable using existing technologies at similar or lower cost than first projected. As NESCAUM noted in comments on the TAR,[4] those findings suggest

[1] California Air Resources board, Advanced Clean Cars Midterm Review
https://www.arb.ca.gov/msprog/acc/acc-mtr.htm
[2] These comments reflect the majority view of NESCAUM members. Individual member states may hold views different from the NESCAUM states' majority consensus.
[3] EPA, NHTSA, ARB: Draft Technical Assessment Report
https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg
[4] NESCAUM, Letter to EPA Acting Assistant Administrator McCabe, NHTSA Administrator Rosekind, and ARB Chairman Nichols, September 26, 2016
http://www.nescaum.org/documents/nescaum-comments-on-draft-tech-assess-rept-epa-nhtsa-arb-20160926.pdf

the potential for even greater reductions than those currently required under the standards. Like California, our states have aggressive GHG emission reduction goals, and transportation electrification is a key strategy to achieving these goals because the transportation sector is the largest source of emissions. Thus, we strongly agree with staff's recommendation to stay the course on GHG emission standards through 2025.

ZEV Program

The transportation sector is the largest source of GHG emissions in the Northeast, and electrification is the only strategy that will achieve the mid- and long-term GHG reductions that are needed from this sector. Because the 2022-2025 GHG rule will not require development and deployment of advanced electric-drive vehicles such as plug-in hybrid, battery-electric, and fuel-cell electric vehicles, additional complementary policies remain necessary to ensure that these technologies continue to develop. Accordingly, we emphatically support staff's recommendation to maintain the existing ZEV program requirements through 2025, and to adopt more stringent standards for 2026 and later years to ensure that our states, and manufacturers, remain on track to do their part to avert the worst impacts of climate change.

The ZEV Program has driven unprecedented investment and growth in zero-emission technologies over the past several years. Its continued implementation in the Northeast will help to lower ZEV costs through economies of scale and by expanding the range of product lines available to consumers. As discussed in more detail below, our member states have been planning intensively, and investing substantially in supporting programs, in anticipation of increased volumes of ZEVs beginning with model year 2018.

While the National Program must continue to drive innovation and reduce emissions and fuel consumption in the near-term, there must also be continued progress in the development and deployment of the advanced electric-drive technologies that will be needed in the 2025-2050 timeframe. The goals of the ZEV Program are unique and complementary to those of the National Program. Moreover, they are achievable, and essential for our states to remain on track to meet their GHG reduction targets.

The Multi-State ZEV Initiative

In an effort to accelerate electric vehicle adoption, the governors of five NESCAUM states (Connecticut, Massachusetts, New York, Rhode Island and Vermont), joined with the governors of California, Maryland and Oregon to execute a Memorandum of Understanding (MOU) in 2013 by which they committed to collectively deploy 3.3 million ZEVs on their roads by 2025 and implement a suite of market enabling initiatives to achieve their goal.[5] Together, these eight states represent 27 percent of the U.S. automobile market.

The ZEV MOU further committed the states to establish a multi-state ZEV Task Force, composed of state officials and facilitated by NESCAUM, to serve as a forum for coordination and collaboration with key stakeholders on ZEV program development, support, and implementation issues. In May 2014, the ZEV Task Force released the Multi-State ZEV Action Plan, which identifies both collaborative actions and

[5] State Zero-Emission Vehicle Programs, Memorandum of Understanding, signed October 24, 2013. Available at http://www.nescaum.org/documents/zev-mou-8-governors-signed-20131024.pdf.

individual state actions needed to address the full range of barriers to widespread adoption of electric vehicles, such as consumer incentives, infrastructure deployment, electrification of public and private fleets, workplace charging, and consumer education and outreach. The ZEV MOU states have successfully implemented many of the recommended action items. Moreover, these states have all adopted renewable energy standards or goals to decarbonize the grid that will result in even greater emission reductions from ZEVs over time.

Continuing Air Quality Concerns

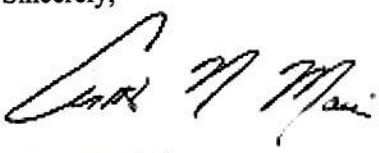
Many states rely on strong light-duty vehicle programs to attain or maintain air quality standards. The NESCAUM region, home to over 42 million people, is subject to episodes of poor air quality resulting from ground-level ozone and fine particle pollution. During severe events, the scale of the problem can extend beyond NESCAUM's borders and include over 200,000 square miles across the eastern United States. Included as an appendix to these comments is a letter to US EPA from the chief environmental regulators in states that are implementing California's Advanced Clean Cars rules, stressing the continued importance of vehicle emission standards.

In reviewing the 2025 1-mg PM standard and measurement method, staff's analysis was robust, and conclusively demonstrates that the standards are achievable, and that manufacturers are on track for compliance in 2025. Accordingly, we support staff's recommendation to leave this standard unchanged.

Conclusion

NESCAUM commends ARB staff for a diligent and thorough analysis, and we strongly support its recommendations on all three aspects of its review. We look forward to continuing to work together as partners to promote clean air and economic growth, and to fight climate change for the benefit of the citizens of our states, and across the country, in the years ahead.

Sincerely,



Arthur N. Marin
Executive Director

Attachment: States/DC Letter

Cc: Alberto Ayala, CARB
Richard Corey, CARB
Chris Grundler, OTAQ

March 22, 2017

Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, D.C. 20460

Re: 2022-2025 Model Year Light-Duty Vehicle Greenhouse Gas Emission Standards

Dear Administrator Pruitt:

As the environmental agency heads for the states of Connecticut, Delaware, Maryland, Massachusetts, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington, and the District of Columbia, we write to urge you to maintain the U.S. Environmental Protection Agency's (EPA's) "Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards." While the record suggests that more stringent standards may be appropriate, we agree with EPA's January 13, 2017 decision to keep the current national greenhouse gas (GHG) standards for model year (MY) 2022-2025 to provide automobile manufacturers with regulatory certainty. We also support maintaining these national standards in order to maximize environmental and economic benefits and to ensure that the United States continues as a world leader in advanced vehicles. In addition, we strongly urge you to respect the independent authority of California to implement its own standards and the right of other states to opt into those California standards to meet the environmental challenges we face.

As part of the 2012 rulemaking establishing the MY 2017-2025 light-duty vehicle GHG standards, which the automobile manufacturers strongly endorsed, EPA made a commitment to conduct a Midterm Evaluation of the standards for MY 2022-2025. After conducting a robust evaluation of an extensive technical record and providing multiple opportunities for public input, EPA determined that the standards for MY 2022-2025 are still appropriate under section 202(a) of the federal Clean Air Act. EPA's completion of the Midterm Evaluation ahead of schedule does not provide grounds to reopen or alter EPA's determination, nor does it change the facts supporting the decision. The record clearly shows that technologies needed to meet the standards are here today, automakers are expected to meet the standards at lower costs than previously estimated, and many other technologies in active development may provide even more cost effective compliance options. The record also establishes that the standards will save consumers money on fuels that will then be available to invest in other areas of the economy, provide public health and welfare benefits, and will not negatively impact the economic viability of the automobile industry or vehicle safety.

In addition, we strongly urge you to resist industry lobbying to attempt to revoke the waiver issued to California to implement its own GHG standards. You have often spoken of the importance of states' rights, and the right of California to establish and enforce standards that are needed to meet its environmental challenges is fundamental to the Clean Air Act, as is the right of other states to opt into the California standards. California's authority to adopt its own standards has been recognized for the past half century by EPA Administrators on a bipartisan basis. Any effort to revoke EPA's waiver decision for California's standards would be unprecedented, run afoul of the statutory criteria for granting or denying a waiver in section 209(b) of the federal Clean Air Act, and undermine our state rights. In granting a waiver for California's GHG standards, EPA determined that California met its burden and an even stronger waiver case could be made today. Moreover, our states continue to have broad bipartisan support for the authority Congress granted to states in section 177 of the Clean Air Act to adopt and enforce California standards that are more protective of public health and welfare.

For these reasons, we respectfully request that you preserve EPA's current GHG standards for MY 2022-25 and leave California's waiver intact.

Sincerely,

Robert Klee
Commissioner
Connecticut Department of Energy and Environmental Protection

Shawn Garvin
Secretary
Delaware Department of Natural Resources and Environmental Control

Tommy Wells
Director
D.C. Department of Energy and Environment

Ben Grumbles
Secretary
Maryland Department of the Environment

Martin Suuberg
Commissioner
Massachusetts Department of Environmental Protection

Basil Seggos
Commissioner
New York Department of Environmental Conservation

Richard Whitman
Director
Oregon Department of Environmental Quality

Patrick McDonnell
Acting Secretary
Pennsylvania Department of Environmental Protection

Janet Coit
Director
Rhode Island Department of Environmental Management

Maia Bellon
Director
Department of Ecology
State of Washington

Emily Boedecker
Commissioner
Vermont Department of Environmental Conservation

cc: Christopher Grundler, Director
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U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington. D.C. 20460

Mary Nichols
Chairman
California Air Resources Board
1001 "I" Street
Sacramento, California 95814